

March/April 1985

Volume XII/No. 4

GRADUATE

THE UNIVERSITY OF TORONTO ALUMNI MAGAZINE

THE ORIGIN OF THOUGHT

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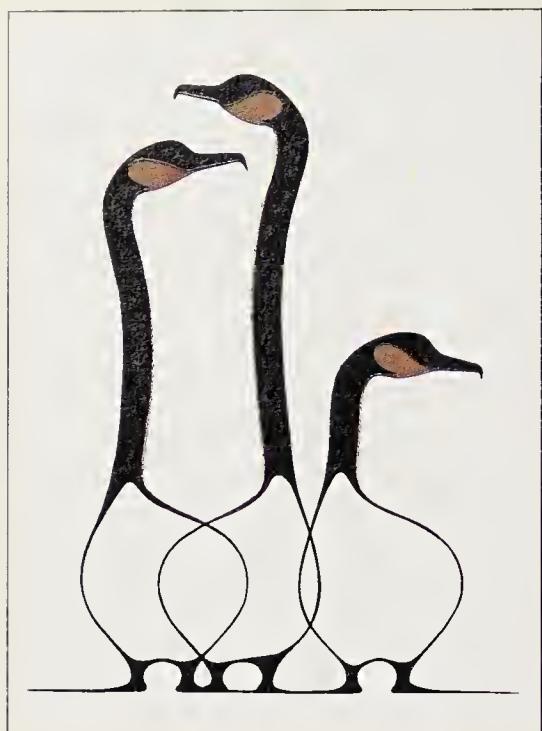
INSIDE
THE MAKING OF
A PEACEMONGER



Woodland Indian Artist

Benjamin Chee Chee

Alumni Media is pleased to present 9 reproductions of works by the late Benjamin Chee Chee. These are the only reproductions authorized by the artist's estate.



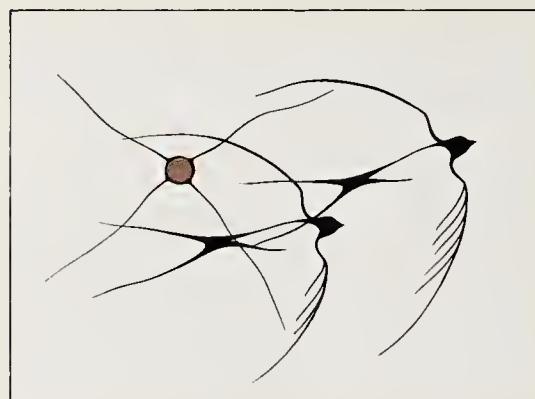
A Friends

A mainly self-taught artist, Chee Chee was a prominent member of the second generation of woodland Indian painters.

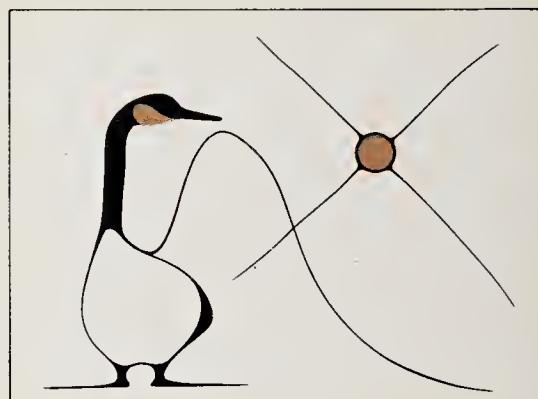
Unlike many of his contemporaries who employed direct and "primitive" means, Chee Chee's work was influenced by modern abstraction. His style reduced line and image in keeping with international modern art.

At the age of 32, at the height of his success, Chee Chee died tragically by suicide.

These reproductions are printed on high quality, textured stock and measure 48 cm x 61 cm (19" x 24").



B Swallows



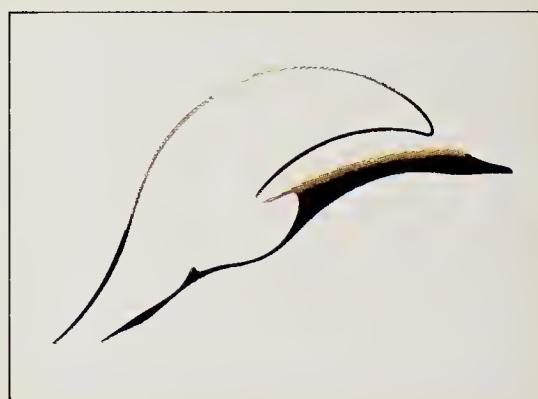
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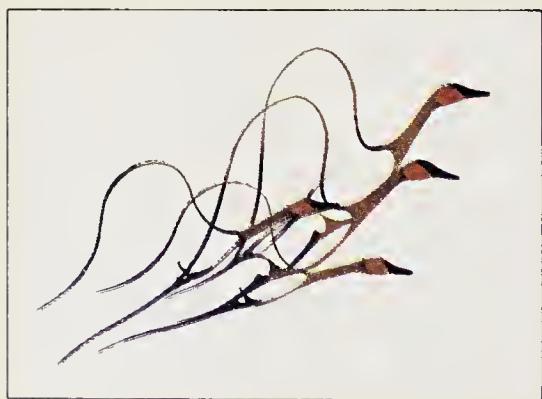
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E Mother & Child



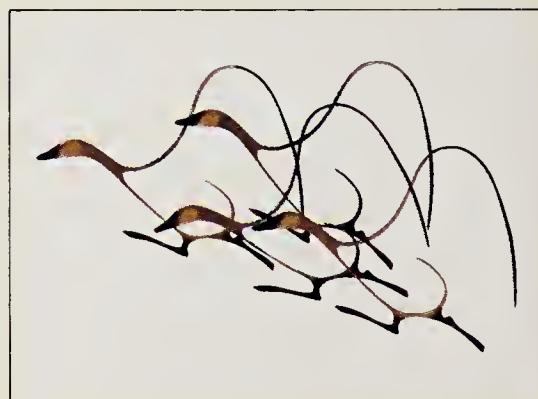
F Sun Bird



G Spring Flight



H Wait For Me



I Autumn Flight

Please send me the following Benjamin Chee Chee print reproductions at \$23.95 each or \$88.00 for any four, plus \$4.95 for handling and shipping (overseas: \$7.50). Ontario residents please add 7% sales tax to combined cost of print(s) plus shipping/handling.

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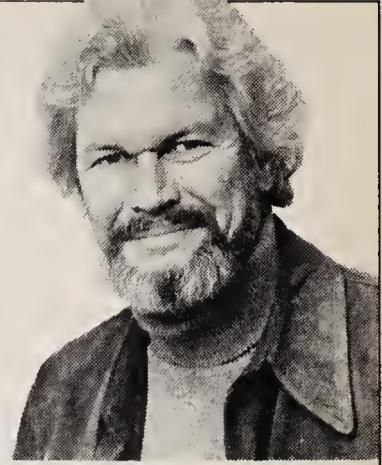
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NARROW VERTICAL

A COUPLE OF YEARS AGO AN ITEM IN THE *WALL Street Journal* indicated that people were quite willing to watch television channels which offered only commercials. The pilot project, involving three channels, took place in Peabody, Massachusetts, and after six months — this was in 1982 — researchers discovered that 75 per cent of the local cable subscribers looked in on one of the channels at least once a week.

This was not merely absurd, it was disturbing to people like me who for generations have accepted an uneasy alliance with advertising revenue as a means of financing and distributing the deathless prose we write. The idea that advertisers could get along without us was, well, *disturbing*, as I've said.

Twenty years ago a newspaper friend of mine told me of a hare-brained scheme he was involved in. He was going to Australia, he said, where he and some colleagues were going to publish a clone of the then extra-

ordinarily successful *Playboy* magazine, but — get this — he wasn't going to sell it on news stands, he was going to mail it to a special list of subscribers free. The advertising would pay, he said.

I thought him mad then, and I don't know whether he prospered, but certainly he saw the future of the magazine business clearly.

* * *

The death in November 1984 of *Quest*, a closed-circulation magazine which was distributed to affluent Torontonians for 12 years, has left those of us who love magazines grief stricken. Since, aside from *Saturday Night*, which is increasingly business and politically oriented, *Quest* was one of the last general interest magazines published in Canada, its demise raises questions about the training grounds for Canadian writers and also about the future role of *The Graduate*.



Quest died, was killed, committed suicide (depending on which obituary you read) because of its failure to hold its audience and, more particularly, its advertisers. It was in many ways a fine magazine, winning national awards with an impressive consistency and many of us simply enjoyed reading it.

It failed, according to a friend of mine who is an advertising man with an editorial background, because its editor was producing an impossible dream, an eclectic journal for a highly specialized and carefully selected audience. It was striving to be a general interest magazine, while its readers were united demographically solely by affluence and geography (they earned more than \$35,000 a year and they lived in some of the better neighbourhoods of Toronto) and had little else in common. That is to say, that it was a general interest magazine with a "narrow vertical" audience.

I called a number of friends to find out what this "narrow vertical" buzzword meant or, rather, to determine its etymology. I find I can't really accept buzzwords until I know who is using them and whence they came. The most lucid explanation came from a former managing editor of *Quest* itself. "Publishers," she said, "are always talking about 'verticals'. I guess it's a fancy word for special interest. Vertical sort of suggests up and down rather than a horizontal, broad general interest."

"Aha," I said. "The opposite of horizontal is vertical, so it's vertical, and *narrow* vertical is more vertical than vertical."

"That's right," she said. I tend to think of society as surrounding me, layered horizontally; it's why I was having difficulty with "vertical". Perhaps I should have gone back to John Porter's "Vertical Mosaic".

"It's important to me," I said, "because *The Graduate* is also a broad general interest magazine with a narrow vertical audience."

Then I called my advertising representative and asked him why the University of Toronto should continue publishing *The Graduate* and he said that while the magazine is one thing demographically, it is quite another psychologically. "If," he said, "you can present the University to the readers in a context that interests them, you serve the reader and the University both. Even if I'm not particularly fond of alma mater, if the magazine has articles that are interesting to me then I am compelled to read them."

When I began to edit this magazine six years ago I had some reservations. It wasn't really an alumni magazine, yet it was the alumni who formed the readership. *The Graduate* doesn't even carry class notes. I can't think of an alumni publication anywhere in North America that doesn't.

Never mind, I was told, just make sure that people read it and that it somehow reflects what is happening at the University. The colleges and faculties have their own publications and they do publish class notes. And so I found myself in that enviable position of being paid to do something I wanted to do anyway: to edit a magazine that would try to be interesting, and would strive for excellence, and that the University (which involves just about every facet of the human experience) would be the pasture in which I would graze.

The response has been astonishing. The letters to the

editor, even when occasionally people are annoyed by something we have said or not said, show a degree of involvement that I haven't seen in many publications. Many of you seem to care about *The Graduate* and, by any reasonable inference, about the University. The paucity of advertising is worrisome; any decent publication ought to be able to offset at least some of its expenses. It seems that alumni magazines in Canada are an unknown quantity to the advertising people. They like our demographics, they just don't think we sell. I think they're crazy.

* * *

Still, there has been good news. Toward the end of last year the Department of Private Funding conducted an attitudinal survey and discovered that 78 per cent of those who do make contributions to the Varsity Fund and 68 per cent of people who do not contribute read all or part of *The Graduate*.

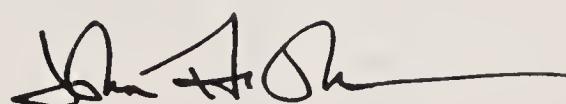
A smaller, informal survey reveals four areas of concern. These, in no particular order, are that there seems to be a public feeling that it is too easy to get a degree from U of T; that the University should not be regarded as a job-training institution; that (nonetheless) it is primarily a teaching institution (not true: research and teaching work together to make an institution great); and finally, that tenured professors are lazy.

Any reader of *The Graduate* over the past several years has had ample demonstration of the fallacy of such feelings. We have explored tenure; we have enjoyed the triumphs, exploits and eccentricities of a remarkably dedicated cadre of teacher/researchers; we have certainly tried to show that U of T, whether for good or ill (good, in my opinion), is hard to get into and that a Toronto degree still carries weight in the big world outside where 90 per cent of the students will end up.

For the moment it seems to be business as usual. Some day perhaps we'll have our own readership survey, which can guide us to what does interest readers, but such surveys are expensive and can be unreliable. They can tell you what it is that you have done that people have liked or disliked but they can't always tell you what to put on your next cover. In the meantime we listen to the readers who trouble to call and we study letters to the editor and react. A magazine should be a friend, always welcome in your home, generally predictable but capable of surprise and even mischief. An interesting friend, if you will.

* * *

Tip of the hat to John Mastromonaco, whose superb photography often adorns the pages (and the Jan./Feb. 1985 cover) of *The Graduate*. His portrait of then writer-in-residence Mavis Gallant (Jan./Feb. 1984) won an award of merit from the Toronto Art Director's Club.



John Aitken, Editor

TRACKING DOWN THE ORIGIN OF THOUGHT

BY NAOMI MALLOVY

CHARLES LUMSDEN EXPLORES
THE MYSTERY: WHY US?

THE STORY OF EVOLUTION CONTINUES TO UNFOLD, currently on the U of T campus. In *Origin of Species*, first published in 1859, Charles Darwin explained how each species including human beings evolved from earlier forms. Now, 126 years later, Charles Lumsden follows in Darwin's footsteps, exploring a no less daunting subject — the origin of the human mind. Darwin's theory of evolution is still a controversial subject. Lumsden's new theory of gene-culture coevolution is likely to cause a similar shake-up in established views.

What Lumsden is seeking is the missing link. Not the physical characteristics of creatures in transition between ape and human since we already have remarkable evidence of these, but the workings of the early human mind.

In the two million years between the earliest humans and the present day, the brain has almost trebled in size and changed form substantially to enable it to develop language, long-term memory for cultural information and finally symbolic thinking. How and why did it develop? What set of circumstances caused it to develop in human beings rather than in apes or dinosaurs? What patterns indicate its development? What direction has it taken, and how will it change in the future? It's this mechanism of evolution, which determined and continues to determine human nature, that Lumsden is trying to define with scientific precision.

Lumsden, 35, is an associate professor of medicine cross-appointed to the Institute of Medical Science and Department of Physics. He graduated with a B.Sc. in maths and physics from University College in 1972, earned his Ph.D. in theoretical physics in 1977 and then went to Harvard on a post-doctoral fellowship from the Natural Sciences and Engineering Research Council. He returned to U of T in the summer of 1982 to join the Department of Medicine.

He is also a member of the Membrane Biology Group, studying the physics of cell surfaces and the chemical dialogue between cells and the circulatory system. These phenomena are key parts of the physical basis of physiology and behaviour, including the activities of the nervous system. Such knowledge will help unravel the mysteries of the mind.

He is one of a new breed of scientists called sociobiologists, who combine information from the social

and physical sciences to explain the biological and cultural bases of social behaviour. Their studies range from the group behaviour of corals, to the social life of insects, to the role of instincts in animal life and finally to the behaviour of human beings.

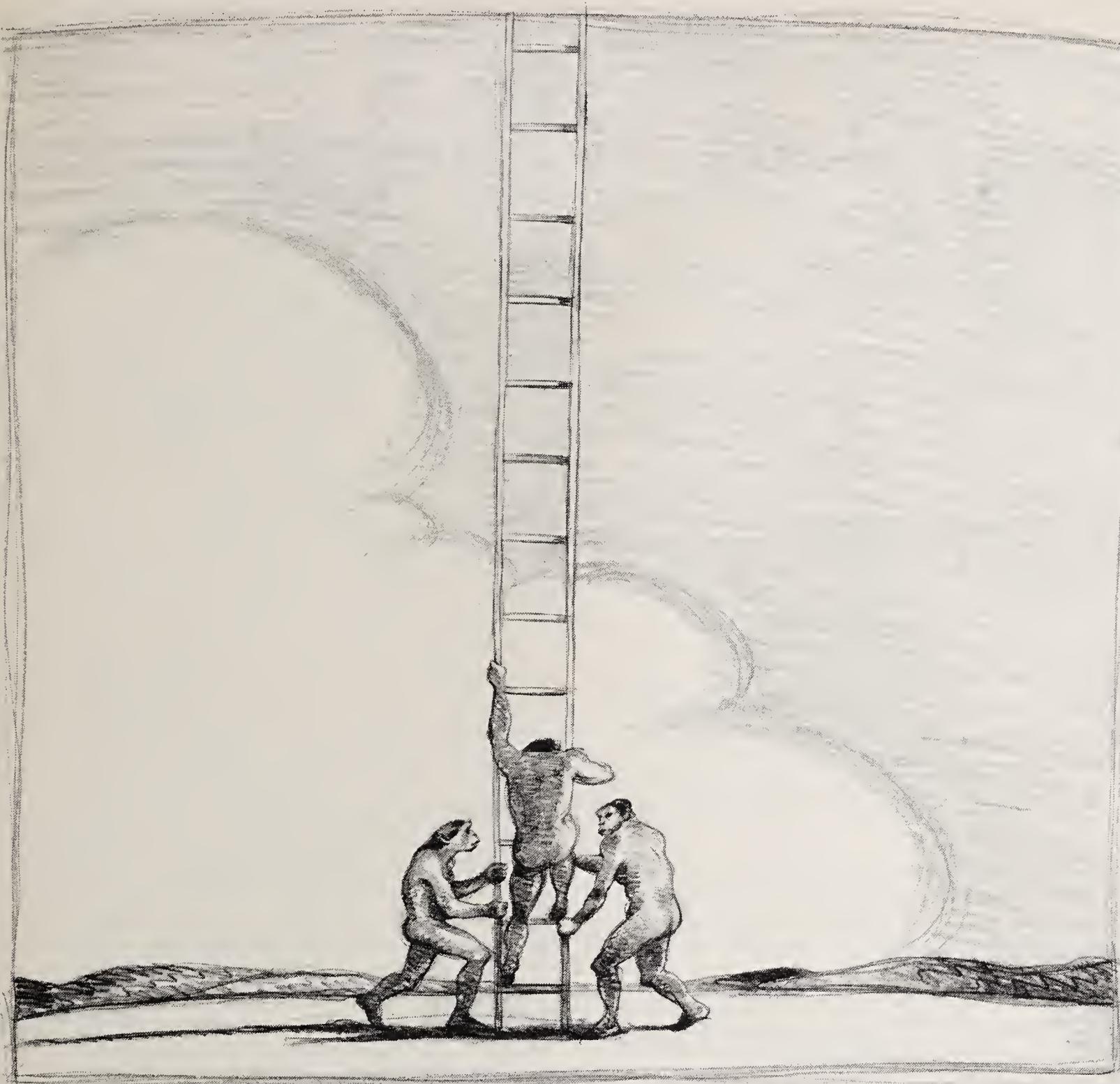
While work in this field in the U.S. has largely been restricted to lower forms of life, the research at U of T and other Ontario universities has focused on the evolution of human behaviour. Canadian scientists are actively pursuing world leadership in the burgeoning new field of human sociobiology and related topics. And because of the number of investigators and the intellectual freedom in Canadian scholarship, we are in a position to make rapid progress.

Lumsden works with a team in a lab in the Medical Sciences Building. His research students in sociobiology come from many backgrounds. Ann Gushurst is a fourth year B.Sc. student in honours physiology working in bioethics and medical sociobiology. Ellen Grant, B.Sc. in maths and physics from Victoria College, is a student in the M.D./Ph.D. program working on the neurobiological side with models of brain circuits. Christine Littlefield, a Ph.D. in psychology from York and expert in grief reactions, has a post-doctoral fellowship from the Social Sciences and Humanities Research Council. She is testing the sociobiological aspects of reactions to grief and other components of medical sociobiology. Scott Findlay, a zoologist from Queen's working on his doctorate, is developing improved mathematical models of the gene-culture relationship. Using a bank of computers, they are processing information from the fields of biology, neurology, genetics, anthropology, psychology and sociology, testing mathematical models of how human beings have evolved from their prehistoric roots.

Life on this planet has evolved in four giant steps, each a billion years apart. The first step was the origin of life, a tiny simple organism that could reproduce itself. Next came a more complex cell, the basis of all higher forms of life including human body tissue. Then came larger, multicellular organisms such as flatworms and crustaceans, which could evolve more complex organs like eyes and brains. The last giant step was the beginning of the human mind.

Lumsden is attempting to describe from available evidence what caused the change from insects and animals with largely genetically programmed behaviour

Naomi Mallovy is a freelance science writer.



ILLUSTRATIONS BY BARRY BLITT

LUMSDEN SEES LESS AND LESS VALUE IN THE THEORY OF A UNIVERSAL INSTINCT FOR SURVIVAL



to thinking human beings with conscience and free will. He looks upon it not as the result solely of heredity or environment, an either/or situation, but as a unique combination of both with genes and culture interacting. This process, which forms the basis of his theory, he calls gene-culture coevolution.

The earliest form of humans, *Homo habilis* (the original handyman), came down from the trees and learned to use their hands to make tools. They were small creatures with human bodies and brains not much more efficient than that of an intelligent ape. Living in a band of hunter-gatherers on the hot savanna plains of Africa, they were beset by larger mammals like the big cats. They were not as swift as the animals and had neither fangs nor claws. They had to work with their fellows to catch game, transport it long distances and then share it with others. To survive, they had to learn to act rationally, co-operate, communicate in some fashion and develop social rules about hunting, sharing of food, division of labour, mating and child care. Such was the earliest culture.

Now here's the crux of the theory. Those who took part in this culture stood more chance of surviving and reproducing. Their offspring, in turn, were affected by and contributed to the expanding culture. Thus we get the beginnings of gene-culture coevolution, a process which accelerated over the centuries as human beings developed and their culture became more complex. They developed a mind able to make choices though biologically programmed to make certain choices rather than others since some conferred greater survival and reproductive ability. Over the generations genetic mutations and combinations predisposed them to a process of mental development.

You can look at gene-culture coevolution as a circuit. If you start at the genes, you follow the circuit through the development of the brain and the mind, the expression of behaviour, the creation of whole patterns of culture, individual responses to these patterns, survival and reproduction and back to the genes again. In the sociobiologist's view, it is this concept of gene-culture interaction, differing as it does from Darwin's theory of a purely biological evolution, that explains what makes us uniquely human.

Human beings are no longer regarded as a bundle of pre-programmed instincts and drives like lower species, but as individuals with minds capable of making choices. Furthermore, thanks to the interaction of culture and genes, they have evolved as autonomous agents who can shape their own destinies within certain limits. (For instance, because of their biological features they cannot see ultraviolet but because of their cultural development they can detect it.)

This theory also resolves the nature/nurture debate since it looks upon human evolution as a combination of both influences. Human beings are not passive subjects shaped only by their biological inheritance or by their environment, but by both.

"We come into the world with a biological program for mental development, not a bundle of instincts or basic drives. And we develop a complex array of emotions, desires, values, ethical knowledge and the capacity to use these to intelligent effect as human beings," explains Lumsden. "It's the dynamics of things like emotions, beliefs, desires, values and goals rather than the animal-like overbearance of instincts and drives that provide the keys to the correct understanding of human behaviour."

In consequence Lumsden sees less and less value in speaking in terms of a universal instinct for survival. Instead, he speaks about human goals such as the desire to preserve life of good quality and to assist the disadvantaged. He also seeks to understand the human mental basis of such things as aggression, altruism and sexual dominance systems in terms of sociobiology rather than Darwinism, in other words as behaviour which has evolved through cultural development passed on through the generations rather than as a genetically determined set of drives.

The new theories of Lumsden and his associates have not been accepted without controversy; they shatter many established beliefs. There are creationists who dispute Darwin's theory of evolution and strongly oppose its teaching in the schools. There are some people who dislike any attempt to describe scientifically the develop-

ment of the human "soul", feeling that it is a mystery which should remain unexplored. There are cultural determinists who believe that you can change people basically simply by changing factors in their environment.

Lumsden first began developing his own theories of evolution while working at Harvard with the noted scientist Edward O. Wilson, who won a Pulitzer prize for his comprehensive 1978 book, *On Human Nature*. The two later co-authored two books: *Genes, Culture and the Mind*, 1981, a technical treatise expressed largely in mathematical terms; and *Promethean Fire, Reflections on the Origin of Mind*, 1983, addressed to both scholars and laymen, illustrated with evolutionary reconstructions by Whitney Powell, an artist who specializes in anthropology and archaeology. (Both are published by Harvard University Press.) Lumsden is currently working on two books, one on medical sociobiology and the other on theoretical biophysics.

Besides pursuing his research and his theoretical speculations, Lumsden also lectures to medical students on the role of medicine in our culture. In discovering new ways to treat diseases, he tells them, medicine is influencing our evolution in a very direct way. For example, juvenile diabetics who formerly faced an early death are now, thanks to medical advances, usually able to survive and have children. They represent a new bulge in the population; they also pass on a predisposition to the disease to future generations. Lumsden offers this situation to show how a step in cultural evolution (treatment of juvenile diabetes) can work a fairly quick population change, and then confront medicine and society with new challenges to provide the resources for treatment.

Other medical advances, for instance in the care of certain newborn babies who would never have survived before, are also affecting the character of the gene pool, which represents our general inheritance.

It is obviously possible to change human nature to some extent. In fact there's an awe-inspiring realization that we now possess enough knowledge to influence and even control our own evolution in various ways. In itself, the process of gene-culture coevolution has speeded up; changes in human nature, which used to take thousands of years, now evolve in periods to 500 to 1,000 years on a historical time scale. (The Middle Ages were approximately late fifth to mid-15th century.)

We can intervene in this process in two ways: first in the classic way of altering the environment through education and social change; and second, in the near future, by altering the genetic codescript itself. Progress in molecular biology is indicating which genes play a role in mental development. It will soon be possible to use recombinant DNA techniques to reorganize the sequence of genes at the fertilized egg stage, *in vitro*, before the embryo starts to divide, and thereby change the natural inheritance. The technique could prove useful, for example, in the case of various chromosomal abnormalities that cause mental retardation.

What traits should we look for, if we take biology into our own hands? A respect for diversity, equality of opportunity, and freedom of thought should prevent us from adhering to one single ideal. The ability to make basic changes in human nature will confront us, not just



WE HAVE MADE
SELF-REFLECTION
THE CENTREPIECE
OF EXISTENCE



with ethical problems, but with a new stage in our own evolution. All this underlines the urgency for further scientific understanding of the processes of evolution. Lumsden and Gushurst have set out the position in an article for the journal *Future Health*.

“During our lifetime the evolutionary gift of conscious thought is being fashioned into the instrument of material if not spiritual independence. We humans have made self-reflection the centrepiece of existence and the key to our future health. We can dissect history and use its lessons, combined with our desires, to reach into the future, even our genetic future. Through culture we have reshaped biological evolution and can now take control, if that is what we wish. But these are also the most perilous of times. So many events in the human odyssey have slipped into a dark alignment. In the midst of this the evolutionary message is clear: we are still too ignorant of ourselves to be truly free, yet too dangerous to remain under the spell of biological forces we understand so poorly. Will history tell whether we were too vain and fearful to carry boldly forward, and find our way out?” ■

FROM RUSSIA, WITH LUCK

THE MAKING OF A PEACEMONGER

GEORGE IGNATIEFF'S LIFE DID NOT HAVE AN AUSPICIOUS start. Born to an aristocratic Russian family, he had to drop the silver spoon from his mouth at the age of three and run as the revolutionaries took over the country in 1917. In his memoirs, *The Making of a Peacemonger*, (to be published this spring by University of Toronto Press) he says his first childhood recollection is of being told to lie down on the nursery floor out of the line of fire of demonstrators.

No sooner did the Ignatieffs arrive in England than they purchased a farm of 188 acres in Sussex, though they knew nothing about farming. Relatives and relatives' relatives, including a general, a judge, a colonel and several invalids, pitched in, making matters worse. The saving grace in all this was his mother's sense of humour, says Ignatieff. "She made it all seem funny. The adjustments must have been terrible for her, but she made our situation tolerable and memorable."

Nonetheless, George — no longer Georgi Pavlovich — did not enjoy the life of an English schoolboy on the outside looking in. Things improved when he came to Canada in 1928 at the age of 15, but it wasn't until he arrived at the University of Toronto in 1932 to study political economy at Trinity College that he felt really comfortable. He subsequently built himself a distinguished career in the Canadian diplomatic service, where he was decidedly on the inside looking out.

Ignatieff was posted to London when Canada was Britain's strongest ally and main source of supply for trained manpower in World War II. Then he became involved in planning for peace, and set up Canada's first mission to the United Nations. Later he took part in the negotiation of the North Atlantic Treaty Organization. He was well enough known that the Russians tried to get him to defect when he accompanied the Pearsons on an official visit in 1955.

"I regard myself as extraordinarily lucky," he says. "There have been close shaves with misfortune and death throughout my life, but at each turning point it has worked out the other way. You simply can't be sure things aren't worthwhile. You have to have faith in what you're doing as being of some use and leave the rest to fate."

Fate sent him for advice to Burgon Bickersteth, the warden of Hart House, in 1935. If he hadn't won a Rhodes scholarship, which Bickersteth urged him to apply for, he wouldn't have gone to Oxford, where he met Mike Pearson, who urged him to write the Canadian foreign service exam. And he wouldn't have subsequently become deputy high commissioner in London, ambassador to Yugoslavia, permanent representative to NATO and ambassador to the UN.

Nor, probably, would he have married Alison Grant,

niece of Vincent Massey, who was Canadian high commissioner to London during the war. When their engagement was announced, Pearson wrote him a note of congratulation. "But," he added in jest, "I don't know what to say to Alison."

Pearson and Ignatieff had a warm friendship. "He had an almost Rotarian kind of goodwill, but he was much deeper than that — a very complex character," says Ignatieff.

Louis St. Laurent was another figure admired by the young diplomat. He did not feel comfortable with St. Laurent's successor as prime minister, John Diefenbaker, who was highly suspicious of many of the civil servants his government had inherited, though Diefenbaker, Ignatieff says, seemed to like him.

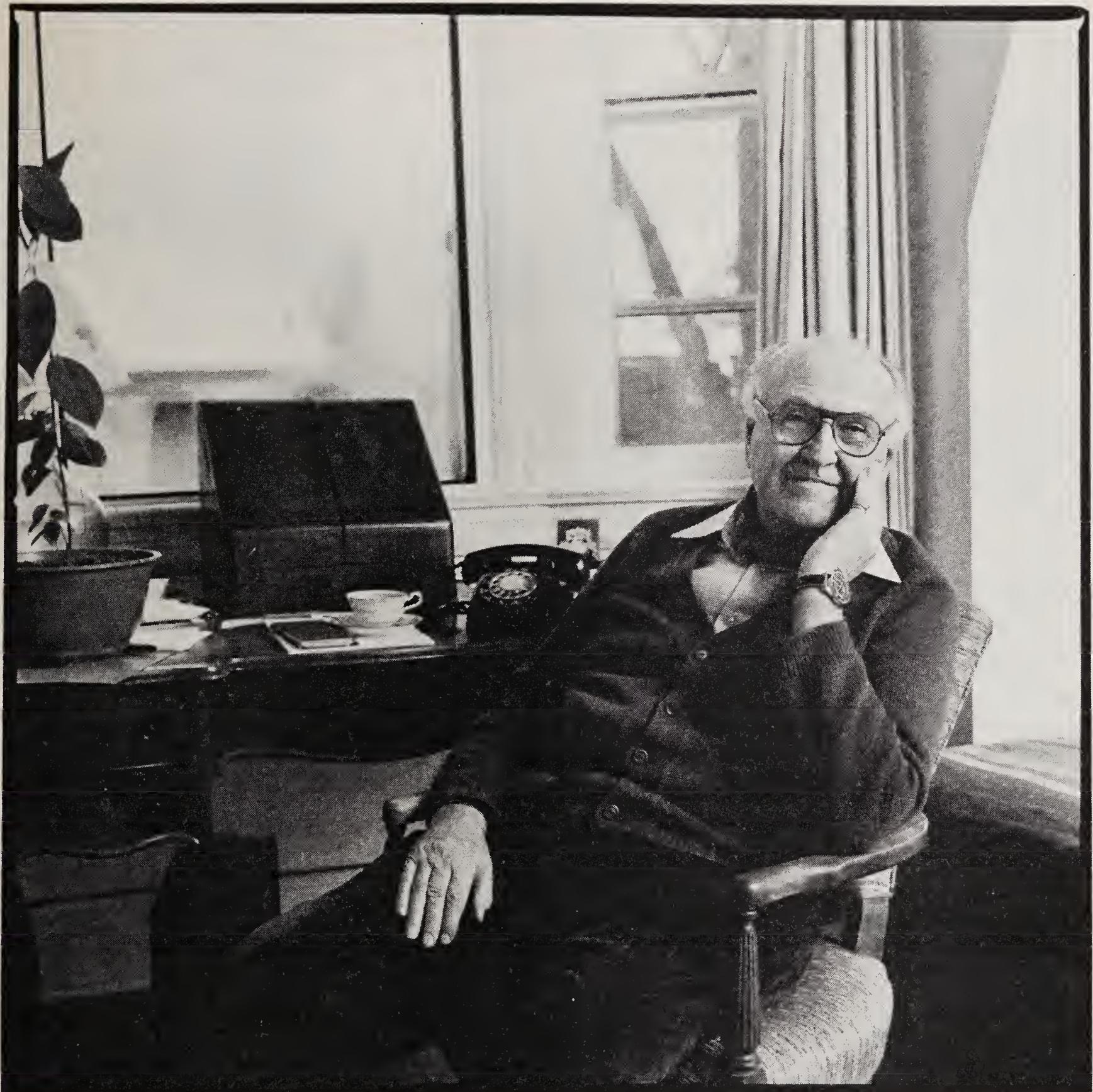
Diefenbaker's attitude did a lot of harm to the diplomatic service, says Ignatieff, and Trudeau made it worse. "He had his own concept of what the priorities were to be in foreign policy. He felt that Canada shouldn't be occupied with being the helpful fixer. I'm an internationalist, and I don't think we can sort of say we'll take time off and deal with our own internal problems." So it was that in 1968 Ignatieff found himself on the disarmament commission in Geneva in the uncomfortable position of representing a government that did not rank disarmament as a particularly high priority.

Fate rescued him once again. In 1972, Trinity College, which up to then had never had a provost who was not a clergyman and an academic, offered him the position. The appointment proved to be a stroke of genius: Ignatieff's diplomatic skills were invaluable when it came to negotiating the Memorandum of Understanding between the University and the federated colleges, and his hands-on knowledge of the world of international relations helped him design a highly successful college-sponsored program in that field. The Ignatieffs moved into the college, the first provostial family to do so, and established a tradition of frequent entertaining.

The job ended in 1978, and he retired, with eight honorary degrees, the Centenary Medal, the Queen's Jubilee Medal and an appointment to the Order of Canada, to France for a few months to begin his memoirs. In 1980 he became Chancellor of the University of Toronto, and since then he has devoted himself to the functions of that office, and the preparation of his book (with the assistance of writer Sonja Sinclair).

Having lived through the Russian revolution and the London blitz, Ignatieff is a passionate "peacemonger". He feels that though the accuracy and automaticity of the new technology is making arms control more and more difficult, a commitment to peace is more likely now than it has been in recent years.

— Judith Knelman



RUTH KAPLAN

The following passages, excerpted and condensed from The Making of a Peacemaker by George Ignatieff in co-operation with Sonja Sinclair, appear with the kind permission of the publisher. © University of Toronto Press 1985.

THOUGH THE GREAT DEPRESSION MADE OUR FINANCIAL situation more precarious than ever, it did serve as a catalyst in re-uniting most of the Ignatieffs by forcing us to seek shelter under one roof. Nick and I had found an old farmhouse in Thornhill on the northern outskirts of Toronto, and there Father spent the depression years growing vegetables while Mother resumed her activities as cook-housekeeper for the clan. Jim got a job as

a demonstrator in the Department of Biochemistry. Leonid joined us after completing his law studies at McGill. Only Alex decided to remain behind in England.

My attempts to become an engineer foundered on my inability to master the mathematics and physics courses at Central Technical School. I therefore transferred to Jarvis Collegiate and, after graduation, enrolled as a student of political economy at the University of Toronto, where I was exposed to the innovative ideas and influence of Harold Innis and Donald Creighton, then the rising stars of Canadian economic and political history. From them I gained an insight into both the unity and the diversity of the country. The devastating effects of the depression also awakened my curiosity in constitutional questions. I felt I had to know the responsibilities of various levels of government before I could draw any

conclusions about ways to alleviate economic problems and proceeded to study on my own.

*

I was in my third year of university and happier than I'd ever been before. Not only was I finally hitting my stride academically, I was also participating in every conceivable facet of life at Trinity College. I found myself involved in debating, dramatics, and even campus politics, all of which provided me with much pleasure as well as sorely needed self-confidence. For the first time in my life, I felt part of a community where I truly belonged.

When I was offered a teaching position at Trinity College School, I was all set to accept but decided to discuss the offer first with Burgon Bickersteth, the popular warden of Hart House whom I had got to know when I represented Trinity on the Board of Stewards. What he said to me in effect was: "Why should you inflict your ignorance on these unsuspecting children? All you'll have is a B.A., which doesn't amount to much; go to Oxford and get yourself some real education before you try to educate others." I protested that I had no money to go to Oxford or anywhere else, at which point he suggested that I apply for a Rhodes scholarship. My prospects seemed dim, to say the least; but Bickersteth had rekindled my imagination and there seemed no harm in trying. When I won, though I had some qualms about going back to England, I could not conceive of turning down the opportunity and letting down the people who had expressed their confidence in me. As it turned out, that decision was a turning point in my life. A Rhodes scholarship in those days was an important stepping stone for admission to External Affairs. Without it, I doubt whether I would ever have become a diplomat.

*

My years in Oxford coincided with the Spanish civil war, the growing militarization of the Axis powers, and the apparent unwillingness of the western democracies either to defend themselves or to join forces under the banner of collective security . . . To make sure that I wasn't misinterpreting what to me were the portents of another world war, I travelled as much as I could in Germany and Italy and I was appalled at the sight of hundreds of thousands of storm troopers parading in front of the Führer at Nürnberg . . . I returned to England the day before the outbreak of World War II.

*

Along with many other Canadian students in London, I went to Canada House to see about enlisting in the Canadian armed forces. The advice we got was to go back to Canada, at our own expense, and enlist there. I had neither the money nor the desire to cross the Atlantic, so I decided to try my luck with the British army instead. Having been a member of the cadet corps at Lower Canada College in Montreal and later at the University of Toronto, I was convinced that I was destined to serve the Allied cause as an infantry soldier. But a tribunal of senior representatives of the three armed forces decided otherwise. A recruit who spoke Russian, French and Bulgarian, they decreed, was clearly destined to become an officer in the Intelligence Corps. I would have had no



UNITED NATIONS

Ambassador to the U.N. With U Thant, signing for Canada as co-operating country in Cambodian development project, 1968

quarrel with that decision had I been able to obtain the basic training I needed in order to be commissioned. But the War Office informed me that they were too busy providing the British Expeditionary Force with infantry training to be bothered with the likes of me. I was given a choice of training as a cavalry officer or waiting until the BEF had left for France. Since I considered intelligence on horseback somewhat obsolete, not to say conspicuous, I elected to wait.

Eventually I was told to report to Department EH at Woburn Abbey, the country home of the Duke of Bedford.

Life at Woburn Abbey was interesting in more ways than one. The duke had a passion for all kinds of rare birds, which were wandering all over the grounds. One night, when I was returning in the dark to my quarters, I ran into a creature that let out a dreadful squawk, and when I grabbed at the unknown presence, something soft and downy came away in my hands. Instinctively I turned and ran, with the irate bird in hot pursuit. Back at the stables I was informed by a colleague that I was clutching the rear feathers of a rhea, a three-toed ostrich native to South America.

Once in a while I went to London to attend meetings, and during one such visit I decided to drop in at Canada House to see Mike Pearson. During my stay in London in the fall of 1939, Pearson had told me that there was to be an open competition for a position as third secretary in Canada's foreign service. He urged me to write the examination. When I saw Pearson again in the spring of 1940, he informed me that I had stood first among those candidates who wrote the examination in London. Canada House, he said, was desperately understaffed: would I be interested in helping them out? I said I would, provided the Canadian government could persuade the War Office to release me from the British army. I reported for duty on 15 June 1940, just as the German forces were closing in on Paris.

*

This was no time for a fledgling third secretary to undergo formal training in diplomacy. My apprenticeship consisted of observing and trying to absorb some of the expertise of the three remarkable men who were my superiors at Canada House: Vincent Massey, the high commissioner — a strict disciplinarian and stickler for

protocol, concerned above all else with quality, beauty, and form; Mike Pearson, the official secretary, whose pragmatic style of diplomacy and ability to inspire confidence in people of all nationalities would eventually earn him the Nobel Prize; and Hume Wrong, counsellor for economic affairs, the brilliant intellectual with a rare capacity for objective analysis. Another member of the professional staff was Charles Ritchie, Vincent Massey's urbane personal secretary.

Life at Canada House was hectic during those months of unremitting air raids. Once it became clear that we couldn't possibly get our work done if we trooped down to the shelter every time there was an alert, we decided to take turns watching from the roof for the warning flag on the roof of the Air Ministry. When that flag was raised, we knew that enemy bombers had penetrated the air defences of London and that it was time to make a beeline for the basement shelter.

Early in 1941 Mackenzie King, who was secretary of state for external affairs as well as prime minister, decided that the talents of Mike Pearson and Hume Wrong were more urgently needed in Ottawa than in London. Their transfer caused a major reorganization at Canada House and, incidentally, a substantial increase in my workload. Since Charles Ritchie fell heir to Pearson's political duties, I succeeded Ritchie as Massey's personal secretary while continuing to provide assistance to stranded Canadians, handle work related to internees and prisoners of war, code and decode messages, and attend to my air raid and fire-watching duties.

Of all these responsibilities, the one which I found the most demanding by far was the drafting of Massey's correspondence and speeches. In the midst of round-the-clock air raids and disastrous losses at sea, at a time when the survival of Britain was in serious doubt and negotiations were under way for the possible transfer of the government to Canada, Mr. Massey insisted on absolute perfection of style and tone in all his utterances. Letters would be returned to me five or six times for rewrites, to the extent that it seemed to me that he polished his speeches until they glistened like his shoes. Even banalities ended up sounding like words of wisdom. There were times when this relentless pursuit of the right word or nuance almost drove me to distraction. Here we were with bombs falling all around us, and I was working on my umpteenth draft of a letter to lord such-and-such, thanking him for a gift of antlers he had seen fit to bestow on the high commissioner.

Yet, as time went on I learned to appreciate the tough apprenticeship. Nobody could have been better qualified than Vincent Massey to introduce me to the formal and ceremonial aspects of diplomacy. From him I learned that protocol is really a language, a set of rules and conventions which enable people of different nationalities, social backgrounds and political persuasions to feel comfortable with each other. He was a perfectionist, a stickler for detail who would spare no effort in planning every aspect of social functions, down to making absolutely sure that people had compatible neighbours at the dinner table. Punctuality with him was almost a fetish. Nobody working for Massey was in danger of developing sloppy habits, no matter how incongruous our activities might seem in the context of an all-out war.



On H.M.C.S. Haida back from convoy duty, Massey with ship's mascot, 1943

ROYAL CANADIAN NAVY PHOTOGRAPH

My own relations with Massey were consistently cordial. He was a demanding and occasionally exasperating boss, but I admired the work he was doing and the way he and his wife represented Canada among their many British friends. Like other members of the Canada House staff, I was treated by the Masseys as a member of the family and invited occasionally to dinner "just for ourselves", or "JO" as we called it. These informal gatherings provided me with an opportunity to observe a different side of Vincent Massey's personality: his quick intellect, his sense of fun, his acting talent, his palpably affectionate relationship with his wife. As far as I was concerned, a particularly enjoyable aspect of these JO evenings was the opportunity to renew my acquaintance with Mrs. Massey's favourite niece, Alison Grant, whom I had met years earlier when her father was principal of Upper Canada College and my brother Nick was an English teacher on his staff. Like myself, Alison happened to be in England when war broke out, and she too volunteered for service in British intelligence. She was assigned to MI-5 at the War Office, and we saw little of each other before I came to work at Canada House, but during the months that followed, I became increasingly convinced that she was the girl I wanted to marry.

The one aspect of Massey's personality which I could never come to terms with was his snobbishness and his extraordinary admiration of the British upper classes. Having attended an English public school and reacted against its intolerance, its élitism, its basic assumption that the British were born to be empire builders, I could neither understand nor condone Massey's belief that Britain's aristocracy personified the most admirable features of western civilization. I remember accompanying him to Newcastle-on-Tyne for the launching of one of the Tribal class destroyers. Massey was invited to lunch by Sir Eustace Percy, the vice-chancellor of the university, and when I was introduced to Sir Eustace he asked whether I was related to Count Paul Ignatieff. I said "Yes, he is my father," upon which Sir Eustace said he had been minister of education in Lloyd George's cabinet when Father came to England, that he was a great admirer of the educational reforms Father introduced in Russia, and that I simply had to stay for lunch.

I could see this did not suit Mr. Massey at all, but there wasn't much either of us could do about it. During lunch

Massey started holding forth on his favourite subject — the virtues of the British and how they were the only people in the world who knew how to rule others justly and effectively. Sir Eustace looked at him quizzically. "And in what respect, Vincent," he said, "do you consider that ideology different from the one we are fighting?"

*

An event that occupied much of our attention at Canada House in 1941 was Mackenzie King's visit to Britain. During his entire stay in Britain, the prime minister paid only one brief visit to Canada House, and it was obvious even to a junior secretary that he didn't want to see any more of Vincent Massey than was absolutely necessary. Though the two of them had been friends and Massey still called him Rex — a privilege accorded to very few individuals — King had apparently reached the conclusion, as he confided to his diary, that Massey was too anglicized, too preoccupied with cultivating high society to be a fitting representative of his country.

No doubt his suspicions would have been reinforced had he been a witness, a few months later, to the meticulous planning that went into the planning of the Westminster Abbey service commemorating the seventy-fifth anniversary of Confederation. The king and queen had been invited, the Archbishop of Canterbury was to preach the sermon, the colours of the three services were to be carried in procession to be blessed at the altar. The guest list caused Mr. Massey as many sleepless nights as the bombing of London. Should he invite R.B. Bennett, who was living in retirement in England? After much soul-searching he decided that he could not welcome as his guest a man who had replaced him with a high commissioner of his own choosing when he became prime minister in the 1930s.

What with these agonizing decisions, the organizers didn't notice until the last moment that they had failed to invite Winston Churchill, and I was sent to 10 Downing Street to see what could be done to repair the damage. Knowing that the British prime minister was too busy running the war to spare time for high commissioners, let alone their underlings, I decided to try my luck with Mrs. Churchill. I explained to her that we had intentionally not sent an invitation to her husband because we knew how difficult it was for someone carrying his heavy burden to commit himself ahead of time to attendance at this type of function. Nevertheless, we very much hoped he might come. Mrs. Churchill said she understood perfectly and that, as a matter of fact, her husband would have to be in the House of Commons at that particular time. "But if you'll take me," she added with a smile, "I would be glad to come." My colleagues at Canada House were decidedly impressed when they saw me walk up the main aisle of the abbey with Mrs. Churchill on my arm.

*

Being private secretary to Vincent Massey at times involved me in some strange encounters. For instance, he had a crazy relative, a wealthy woman who decided for no apparent reason to spend the war at Claridges in London. One day she swept into my office insisting that



Ambassador to Yugoslavia. Presenting his credentials to Marshal Tito, 1957

I tell the hotel management to stop electrocuting her. So I phoned the manager at Claridges, whom I knew because one of my duties was to make reservations for visiting dignitaries, and suggested that he stop electrocuting the high commissioner's cousin.

Unlike the Americans, who never quite overcame their public relations problems, Canadians were made to feel welcome in Britain — so much so that the hospitality extended to them occasionally went beyond the call of duty. I particularly remember a letter from a British housewife who explained that, because a Canadian soldier had spent his leave in her house, both she and her daughter were pregnant. To compound the felony, the visitor had taken off with her daughter's bicycle. "She needs same to go to work," the letter concluded without apparent rancour. "Please have it returned." We did.

Though I welcomed these occasional bits of comic relief in an otherwise exacting and exhausting job, I remained convinced that my place was in the army rather than behind a desk at Canada House. After the Dieppe raid, both Charles Ritchie and I spoke to Vincent Massey and asked to be released so we could join our contemporaries in the armed forces. He was non-committal but promised to look into it. Some time later we both got letters from the prime minister to the effect that we were serving our country more effectively at Canada House.

*

Living through the blitz reinforced in me the horror of war that I first felt as a child in Russia. I remember being on duty at Canada House one Sunday morning after the *Luftwaffe* had concentrated its attacks on Whitehall.

Pearson was still official secretary, and together we watched the charred remains of civil service files fluttering in the wind as the fires were burning out of control all around us. Pearson said something to the effect that civilization could not stand much more of this kind of destruction and that we would have to try to stop it. I knew what he meant: it wasn't a case of giving in to the Germans, but rather working for peace in the future. This was about the only time I heard Pearson express personal feelings; he was not a communicative man. But he was dedicated to peace, as I was and still am. In spite of innumerable disillusionments, I remain convinced that that is the direction in which we have to go, because the alternatives are so appalling. ■

VIEW FROM A WINDOW SEAT

IT WAS YEARS AGO. I WAS SOMEONE else then, very young and, of course, a student. "Old Toronto, mother ever dear, all thy sons . . ." But, I never, ever cared for that song.

I lived in a timid house down on Huron Street. It has since been razed in the name of progress. There were three of us on the second floor, Geraldine and Magda and myself, thrown together by our necessity.

They were meagre times, food-wise uninspired. It was our frequent practice to march up to Bloor Street together in the early evenings, and claim window seats at the Zumburger.

The food at the "Big Z" was nothing to write home about. There was a Harvey's in the next block, where the hamburgers were vastly superior, but Harvey's was a small utilitarian place. The Zumburger had a view and the view was all, initially.

We were unabashed people-watchers, Geraldine and Magda and I. We felt a false sense of security with that protective layer of glass between us and the real world. (As real as university life can be!)

Across the street stood Rochdale. An "open" college, it was a new and exciting concept, then. It was home for many free spirits, and some of them tried to fly from the windows, still clinging, as it were, to those spirits. Totally "blissed-out", as they say. It made me acutely suspicious of ignorance.

But my friends and I were spared the harshest realities. Landings generally occurred late in the evening, after our departure. We saw only the after-effects: the caretaker hosing down the sidewalk.

We had more frivolous matters on our minds. Harmless, unapologetic, we were chronic voyeurs. We even had a name for it, "bun watching". (Not very original, I confess, nor accurate.)

Should I claim youthful innocence, exuberance, curiosity? All of the above? It was a phase we went through (Freud would have a name for it), a phase in which we undressed, with our eyes, the young men who scurried along Bloor Street to classes, to football practice, to the pub.

Sometimes we became creative with our models, imagining them emerging, slowly, from jungle swamps, dripping water and weeds, clothed in the briefest

of loin cloths. Muscular, blue-eyed, dark and hairy, mine always wore glasses like Buddy Holly.

We were mid-week regulars at the Zumburger. It was never very busy, so we nearly always sat at our chosen table. This ritual continued for some time, until an evening in late November, when something happened which permanently altered our routine.

There we were at our favourite spot, front and centre. Our burgers were gone and we were nursing root beer, hoping for some burly athletic type or, as a change of pace, maybe a surly academic with bedroom eyes.

It was slow that night, however, nothing but scrawny water boys and dishevelled panhandlers.

"Looks like a bummer," Geraldine said in disgust and made a rude noise with her straw.

"Wait a minute," Magda whispered. "Three hunks approaching at ten o'clock."

My eyes shot around to ten o'clock. "Hunks?" I scoffed. "They're engineers." (The irony, of course, is that I eventually married an engineer.)

They were wearing yellow hard-hats and Lady Godiva jackets. Each carried a cornet and they walked briskly past our window, without a glance in our direction.

They were talking and laughing amongst themselves.

"Nice," Geraldine said, watching them recede.

"Not much to write home about," Magda said wistfully. We seldom wrote home, in any case.

Some little time passed. We were about to give up and go home to our books when the three fellows with the cornets suddenly appeared before our window, full front, with half smiles and eyes as big as saucers. They blew a three note charge on their instruments, then dropped their pants in one fluid movement.

I screamed and threw myself straight back. The chair hit the deck hard, as did the back of my head, stunning me.

When I had re-assembled myself, both Geraldine and Magda were rocking in their chairs and laughing hysterically. The three boys were long gone.

It was years ago. I was someone else then. Rochdale College has undergone a transformation in the meantime. The Zumburger has disappeared entirely. Only the hamburgers at Harvey's remain, still, I think, vastly superior.

Funny, I like to sit at the counter now, and preferably near the back. ■

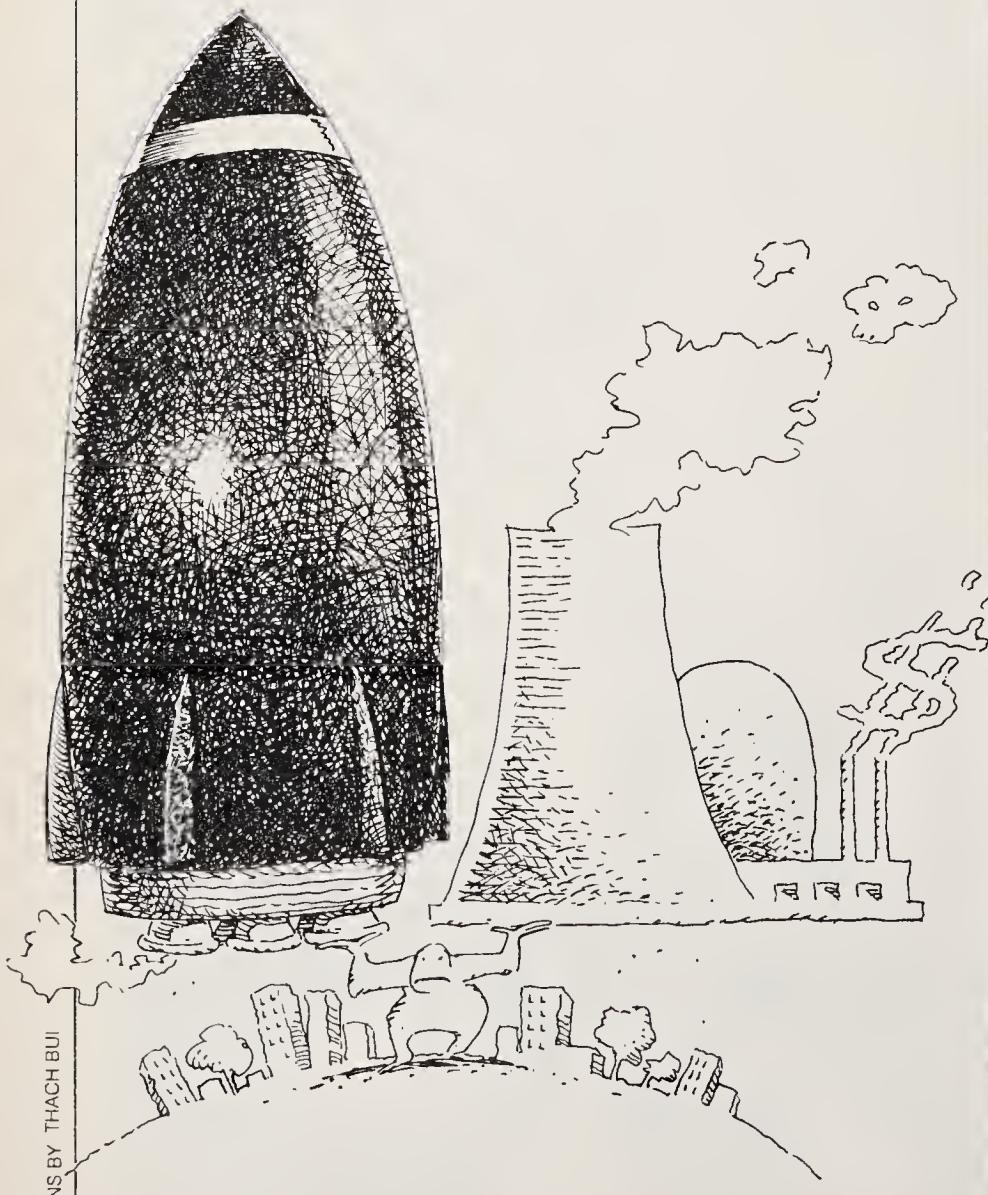
Karen Empey Alton, B.A., graduated from Erindale in 1971.



AVOIDING NUCLEAR HAZARDS

BY SIDNEY T. FISHER

MUTUAL SUICIDE IS ALREADY AVAILABLE



ILLUSTRATIONS BY THACH BUI

There is an alternative to the nuclear generation of electric power, argues Sidney T. Fisher. "The world", he says, "has an abundance of solid fossil fuels, and unless it drives ahead with all reasonable speed to exploit them, is in danger of having them left in the ground, unused and valueless forever. If we fail to exploit our reasonably accessible fossil fuels, using instead nuclear energy for the next century or two, and then sail into the calm waters of endlessly renewable geothermal energy, the fuels we could have used relatively safely will have become mere curiosities; and we will have unnecessarily undergone disastrous nuclear hazards."

Fisher has devised a process for the exploitation of solid fossil fuel deposits — coal, lignite, oil sand, heavy oil, residual oil and oil shale — by electromagnetic induction *in situ* sufficient to generate needed energy commodities economically, using indigenous resources, almost without pollution, environmental damage or human hazard. For possibly two centuries, he believes, the world can use its fossil fuels safely and quickly and without recourse to nuclear methods to generate power.

In this speech, delivered last December to the Canadian Human Rights Foundation's colloquium on "Human Rights and the Peace of Nations", he defines the dangers of nuclear power in any form.

THE RELATIONSHIP BETWEEN THE HUMAN RIGHTS OF the citizens of all countries, and nuclear destruction, is close. Nuclear war is a global invasion of human rights, as is nuclear power generation; the very existence of humanity is in danger from them.

NATURE OF RADIOACTIVITY

Chemical reactions take place by interaction among the orbiting electrons in the atoms of the 100-odd known elements. Compounds are formed, but the identities of the atoms are not changed. This is the classical chemistry, all that was known before 1939.

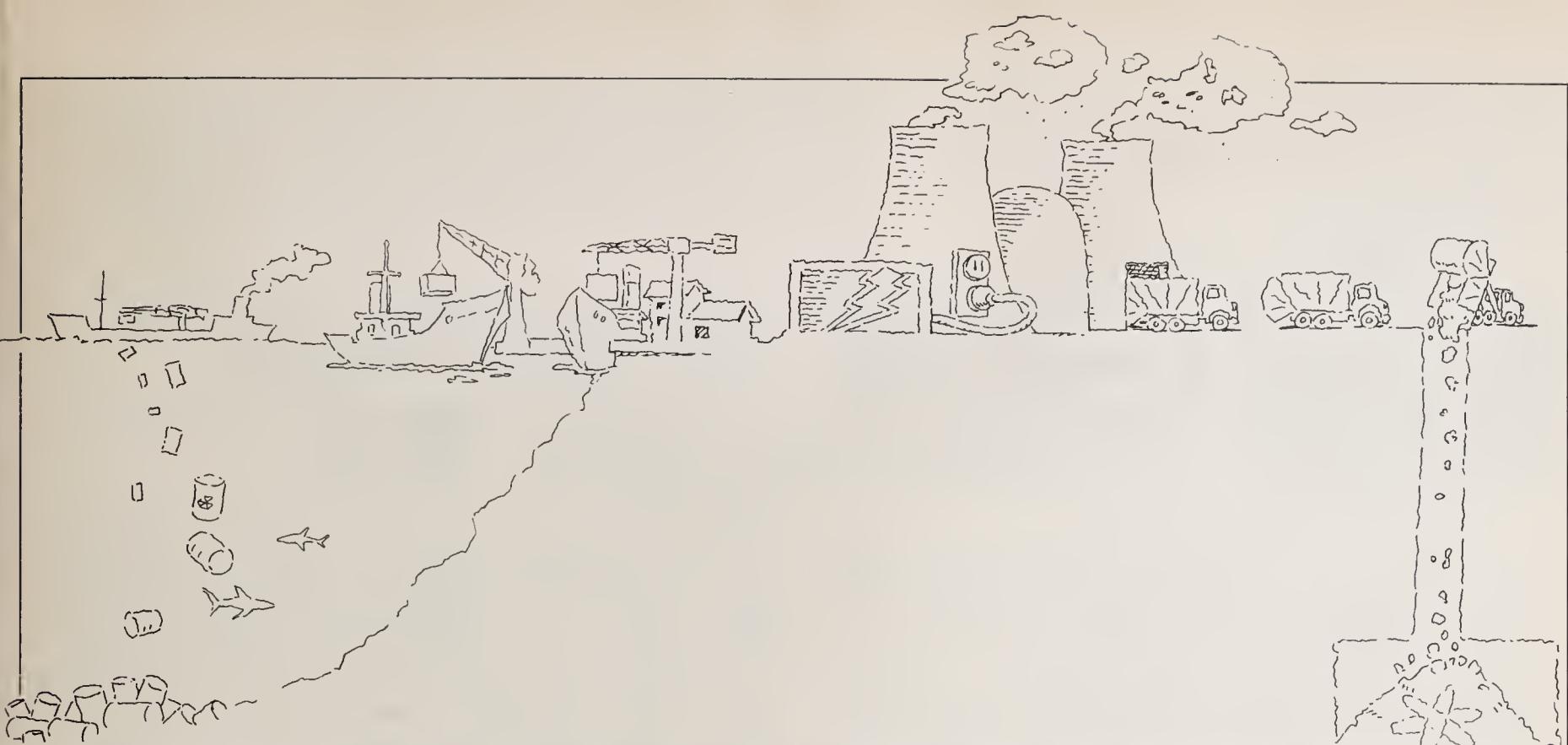
Nuclear reactions take place by the emission of rays and particles from the nucleus forming the core of each atom. This is *radioactivity*. It has nothing to do with our usual use of the word *radio*.

Naturally occurring uranium can be converted by a long and costly process to plutonium, which is the material of atomic weapons depending on nuclear fission. When two pieces of plutonium, which together exceed the critical mass of the order of 2 kg, are brought into contact, an atomic explosion results. The plutonium atoms are split into two lighter atoms, and the loss in total mass releases an immense amount of energy in the form of rays and particles.

The hydrogen bomb explosion, hundreds of times more powerful than the atomic bomb, results when two light atoms are fused at very high temperature, with the formation of a heavier atom and the release of the excess mass in a great burst of energy. Any nuclear war will be fought with hydrogen bombs.

NUCLEAR WAR

A nuclear explosion would create immense radioactive dust clouds, which would be wind-driven to great distances. Fires ignited by nuclear explosions would generate massive amounts of smoke, blocking sunlight



from reaching the ground. These would bring about a global nuclear winter. It has been generally assumed that the most devastating consequence would be a gigantic number of human casualties in the Northern Hemisphere. Although the social and economic structure of the combatant nations would collapse, it has been argued that most of the non-combatant nations would not be endangered. This is not true.

There would be indirect, long-term effects of nuclear war, such as delayed radioactive fall-out, depletion of the protective ozone layer in the upper atmosphere and adverse changes in the climate of global extent. Vast areas of the earth would be subjected to prolonged darkness, abnormally low temperatures, violent wind-storms, toxic smog, and electromagnetic pulses.

The physical effects would be compounded by the widespread breakdown of transportation systems, power grids, agricultural production, food processing, medical care, sanitation, civil services and central government. Everywhere survivors would be imperilled by starvation, freezing, radiation sickness, loss of immunity to disease, epidemics and other dire consequences.

The immediate destruction from blast, fires and fall-out, later enhancement of solar ultraviolet radiation due to ozone depletion, and long-term exposure to cold, dark and radioactivity would pose a serious threat to human survival, and to that of other species. All these effects combined may well represent an increase of 1,000 or more times the direct damage from a weapon explosion.

An important effect would be to disable instantly every nuclear power station within range, by destroying its electrical control system. The reactors would continue to generate immense amounts of heat, without any means of stopping their reactions or of absorbing the heat. In North America this would mean about 100 runaway reactors, with a short-term catastrophic ending for each one, all from only a single high-level explosion in the centre of the continent.

NUCLEAR WAR INTENSIFIED BY POWER GENERATION

Think of the radioactivity that would be released if a nuclear weapon were detonated on a power reactor. The

radioactivity of the reactor core would combine with that of the weapon, rise with the fireball and return to earth like the fallout of the weapon alone. The debris from the weapon would contribute to a high level of early radioactivity and the debris from the reactor would contribute to long-lasting radioactivity.

Vaporizing the core of a power reactor with a nuclear weapon is clearly an efficient way for an enemy to devastate any country's industrial capacity with a single weapon. Storage pools for radioactive wastes are often on the same site as the reactors that produce the wastes. In a typical pool, these soon represent radioactivity greater than that of the reactor core. Reactors are often constructed in pairs a few hundred metres apart. In Ontario, the worst case of planning known, there are three tight clusters, of six, eight, and nine reactors, and these unfortunately are all CANDUs. The six- and eight-reactor clusters are close to Toronto and on Lake Ontario. The damage following the detonation of a nuclear weapon on such a complex could be up to 50 times higher than that calculated for the weapon alone.

I can find no public evidence that military planners have considered, in any of their scenarios for nuclear war, vaporizing the core of a power reactor in an attack.

DANGER OF NUCLEAR POWER GENERATION

The danger of nuclear power generation is commonly rated lower than that of nuclear war. But is it? There are 300, and will soon be 500 or 600, nuclear reactors *in continuous operation* throughout the world, with all their associated activities and insecure handling of radioactive material. Nuclear power stations have hundreds of thousands of employees, subject only to civilian hiring procedures and discipline.

Nuclear power presents a perpetual menace to human society. Never before has the world been in a condition of comparable hazard, where the tools of industry, the basic and essential production of the energy on which it depends, are capable of destroying the regions in which they are located. Never before have man's production tools been capable, as the penalty of a moment's inattention by an obscure worker, of subjecting vast populations

to death. Never before has every developed country had great concentrations within it of material of almost unlimited lethality which can be released by a simple single act of sabotage or attack. In the event of a catastrophic nuclear accident (and the question is only when, not if, it will occur) all parts of the earth will suffer as grave physical consequences as in a nuclear war.

The proponents of nuclear power claim that the reactors will always be controlled, monitored and operated by skilled, dedicated and incorruptible people. In order to preserve complete stability, worldwide, *forever*, there must *never* be an accident of a technical or human nature — an impossible condition.

No assurance of the safety of nuclear power can or should be given. Anyone who gives such public assurance should be discredited and removed from a position of power or influence immediately and permanently. It is morally and politically inadmissible that the possibility of annihilation of civilization and the human race should be used to promote the economies of the nuclear-power countries.

DISPOSAL OF NUCLEAR WASTES

No method is known for the safe disposal of lethal waste from nuclear power generation, and the much greater amount from the manufacture of weapons. So far, only temporary and dangerous disposal methods have been used: shallow earth burial, deposit in canisters in streams, lakes and the ocean; and dumping in the ocean. Proposals for deposits in geologically stable salt beds or ancient rock formations have met popular opposition and scientific scepticism. The lethality of the waste will extend to 250,000 years, and proposals to inject it into the magma under the earth's crust, to fire it into the sun, or to put it into orbit in space, have not proved possible. New types of reactors might consume it, but these have not yet been developed, despite immense efforts, and may never be. Unless some solution is found, and there is no clue to one yet, the earth will be poisoned by its own nuclear garbage.

DECOMMISSIONING OF NUCLEAR PLANTS

No reactor has ever been decommissioned, although the life of an operating unit is only 30 or 40 years. Several hundred must be taken out of service by the end of the century. What then? No one knows. Estimates of the cost of decommissioning a reactor vary up to a billion dollars, and there appear to have been only two methods proposed. The first, entombment, has been generally discredited; it means encasing the whole reactor in a thick block of concrete, and keeping the site under surveillance *forever*! The second involves dismantling the reactor by stages, a process requiring a century or more, and disposing of the parts by whatever means, if any, may by then have been devised for disposing of lethal wastes.

THE REAL ISSUES

The real issues are *not* the current manufacture of weapons, but these:

1. How to get rid of existing radioactive material — 100,000 warheads, 500 reactors, hundreds of sub-

marines, processing plants and laboratories — in all containing millions of times the lethality required to destroy the world; plus immense amounts of waste now buried underground, or in rivers and lakes?

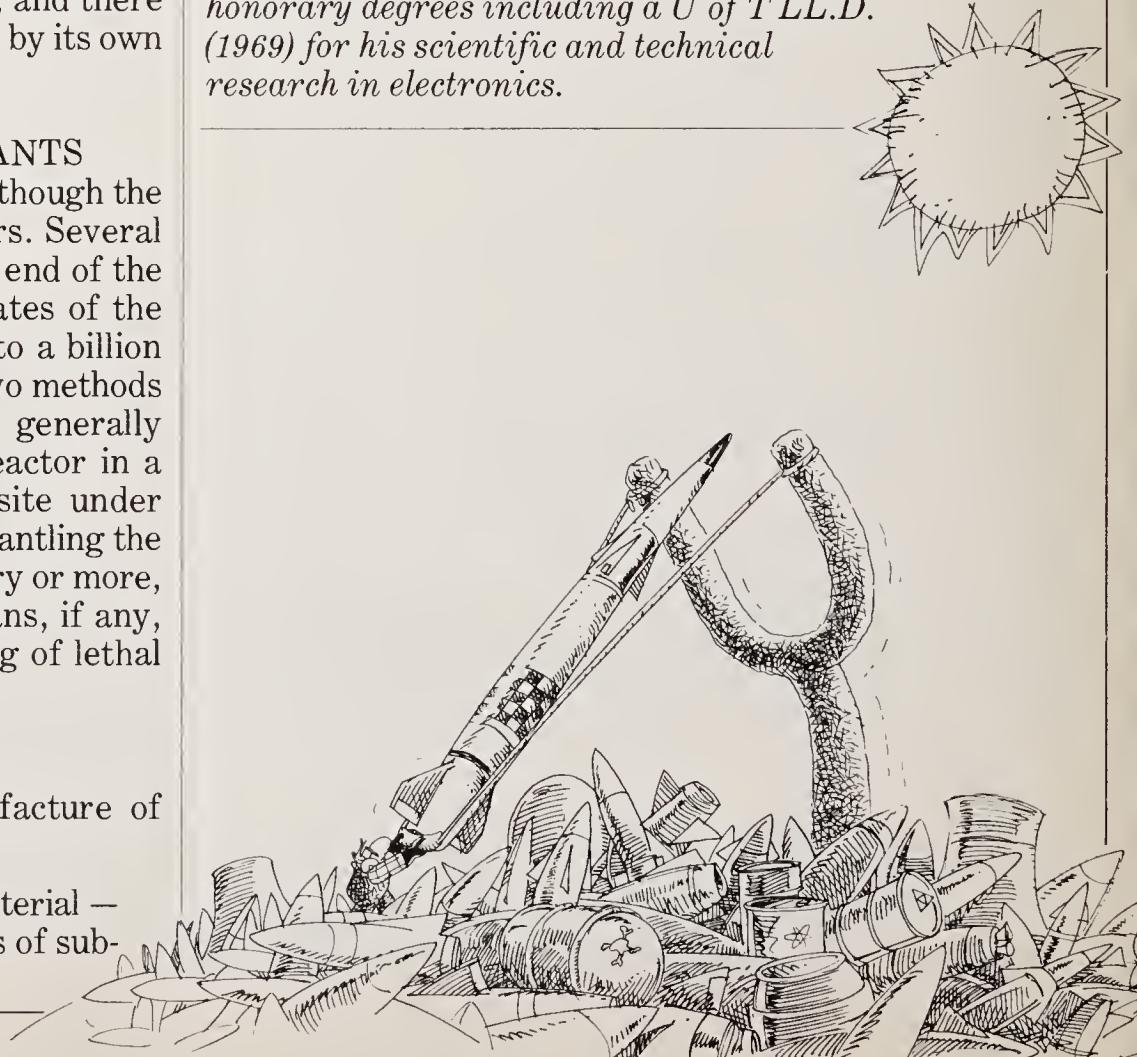
2. How to prevent weapons being used? Only a long-term program to reduce the obsessive enmity of the super powers can accomplish this.

3. How to stop nuclear power generation, processing, mining and research?

SUMMARY

The super powers, in order to create a psychological sense of safety in their people — and possibly also in their governments — are building more nuclear weapons. Their people are told that their expanding nuclear technology protects them from the enemy's undoubtedly aggressive intentions. To some extent this argument succeeds: psychological safety is thus bought at the cost of increased danger of extermination. This is the argument that all anti-nuclear movements, unilateral or bilateral, seek to overcome; but they are surely only wasting their efforts. In addition, they may be actually ill-advised because the annual increase in nuclear weapons is no longer significant in the process of extermination: the existing inventory of war heads would destroy all civilization a thousand times over. No scientific secrets are possible, and mutual suicide is already available. A "limited" war is not a possibility. The only real disadvantage to continuing weapons manufacture may be the cost; guns are being substituted for butter. Even this cannot be accurately estimated; taxes and unemployment would eat up much of the cost of manufacture of nuclear weapons if it were discontinued now. ■

Sidney T. Fisher, O.C., B.A.Sc. (1930), has several honorary degrees including a U of T LL.D. (1969) for his scientific and technical research in electronics.





MATTERS OF EQUALITY AND HUMAN RIGHTS

IT WAS MY GOOD FORTUNE TO ARRIVE ON CAMPUS IN time to participate in the celebrations of the University's 100th anniversary of the admission of women to its halls. The fall convocations gave us the chance to present three particularly outstanding women with honorary degrees. These were The Hon. Madam Justice Bertha Wilson, first woman justice in the 107-year history of the Supreme Court of Canada; Jill Conway, president of Smith College in Massachusetts (the first woman to be president of what is a women's college, by the way) and U of T's first woman vice-president (1971-74); and The Hon. Jeanne Sauvé, Governor-General of Canada, the first woman to hold that office.

The year provided us as well with the opportunity to celebrate the naming in September of Ursula Franklin as a University Professor, the highest honour the University can bestow on its faculty members, the first woman to achieve the title. Professor Franklin is both an internationally respected metallurgist and a potent activist in movements that promote peace, international understanding and equality of women. She has brought much honour to this institution.

There are many other women who have brought honour to the University over the years, and many who have benefited from opportunities here (my mother graduated from Dentistry in 1923) and we may celebrate their achievements legitimately.

That is not to say that the place of women within the University is as it should be, and this is a matter in which I take strong interest. It is essential that the University give full credit and derive full value from those women who have chosen to make their careers here, whether as faculty members or part of the administrative staff. It is also essential that the University's full resources are available to those women students who are here. I am reluctant to believe the University has been overtly guilty of discriminatory practices in recent years. But neither do I believe that we can ignore the subtle and systemic ways in which women's career opportunities, no matter how innocently, can be curtailed.

For many years the universities were complacent about the place of women in the academic community. In the late 1960s and early 1970s, our consciousness was raised by the powerfully persuasive women's liberation movement and inequities began to be clearly defined.

Jill Conway herself was active and initiated a number of studies as did Joan Foley, principal of Scarborough College until last year. Among these studies were comparisons of salary anomalies between men and women who were doing the same work, which led to actual salary adjustments. Currently Lois Reimer, the Univer-

sity's status of women officer, is charged with discovering what obstacles may still exist for women here, and making recommendations on how to correct them.

I have heard enough from people whom I respect about how women fare here, what their opportunities are for advancement in the academic community and what may stand in their way, that I am anxious to get beyond the rhetoric and look closely at the facts. I am prepared to listen to individual and collective concerns. If there are practices which do inhibit women at U of T, then I am determined that they will be corrected.

Problems of sexual harassment and security are obvious areas which may require attention. Both matters are of concern to all universities. But there are other factors, subtle and difficult to comprehend, which may prevent women from taking their proper role in society. These, too, merit serious study. What, for example, is it that turns young women away from mathematics and science at the grade nine and ten levels? Something does; many of them drop these subjects just as soon as they can. Certainly these early decisions are reflected in enrolment at the university level. This bias is not as pronounced in the professional faculties but why are women pursuing careers in some non-traditional areas and not in others? Are those areas lacking greater participation somehow being deprived of approximately 50 per cent of the finest minds available?

No university which aspires toward excellence can afford such a situation, for the most pragmatic of reasons, not to mention matters of equality and human rights.

One matter has been addressed by the decision of the Council of the School of Graduate Studies to allow maternity leave for students. Professor Rose Sheinin, vice-dean of SGS, who made the original proposal, regards this as "recognition in University policy that women are women and that we should give them roses instead of penalizing them."

The University of Toronto has every right to be proud of what it has achieved, and to enjoy the events of this important centenary. We also owe it to ourselves and to the society we serve to monitor our continuing progress in the creation of an environment which gives women the best education we have to offer, and which freely gives them visibility and credit for their achievements.

President

LANGUAGE LEARNING & MENTAL FLEXIBILITY

BY MARCEL DANESI

REASONS STUDENTS HAVE FOR STUDYING LANGUAGES ARE MANY AND VARIED. THE REWARDS ARE UNDERSTOOD LATER.

AMONG THE REASONS MOST OFTEN GIVEN BY STUDENTS for studying another language are the following: It fulfills some academic requirement. It is useful to a future career. It is the only course that fits into one's timetable. The instructor is popular. Most such reasons are typically instrumental or pragmatic.

Occasionally students take a language because they are genuinely interested, or because they have a keen interest in the people who speak it and their culture. Rarely is the reason related to the development of one's mind or to the expansion of one's powers of perception. Yet just as fluency in one's native language provides a key to understanding the world, so the knowledge of another language provides a different key. Heightened mental flexibility is one of the hidden by-products of studying languages no matter what the original motive.

Such thoughts occur after spending 15 years at U of T teaching students to "think" in another language. The logical starting point in a discussion such as this is the bond between language and perception. It can be said that language is a means by which people attempt to give order and structure to the raw matter of reality. Without some way of classifying and organizing experience and related perceptual phenomena, it would be difficult indeed to make sense out of our world.

The naming function of language allows us to impose some kind of structure or framework to the events, phenomena and objects of our world. When something is discovered or invented, we immediately attach a linguistic label to it; without such a label the thing would soon cease to exist in our consciousness. This is not to imply that language determines thought. But in some areas of perception it can give thought patterns a definite shape. In Italian, for example, the single word *orologio* is used to designate any device for keeping track of time. Such a device can be carried or worn or installed in a tower. In English this distinction is resolved by use of "clock" and "watch", the latter being further defined by "wrist watch" or "pocket watch". When the word *clock* is used a different mental image is evoked than when the word *watch* is used. *Orologio* implies no such dichotomy. A

whole series of similar examples in comparing different languages are in fact quite commonplace.

As a matter of fact, in the mid-1930s an American anthropological linguist named Benjamin Lee Whorf (1897-1941) kindled interest in the hypothesis that thought might be determined by language. On the basis of his extensive research on American Indian languages, chiefly the Hopi language of Arizona, he claimed that one's world-view resulted from the specific language one spoke. This became known as the "linguistic relativity hypothesis". The idea was not particularly new, since it went back to Herodotus who suspected that Egyptians behaved differently from Greeks because Egyptians wrote from right to left, rather than from left to right as did the Greeks (and as do we). This theme also found its way into such modern European intellectual movements as romanticism, nationalism and the rise of social psychology. However, it was Whorf who articulated the hypothesis. The question of whether or not he was right has been debated endlessly, but has never really been answered in any scientifically acceptable way.

The answer to the question of linguistic relativity intrigues linguists, psychologists, anthropologists and, of course, language teachers. If it is even partly true then the implication is that we are teaching not only another vocabulary and system of rules of grammar, but also a different mode of thinking. I suspect that the linguistic relativity hypothesis is only partly accurate; that while some elements of thought are tied to knowledge, others are not. But I would go further and claim that learning another language will expand the ability to think about the same things, since it provides the learner with a different psycholinguistic perspective.

As the writer Arthur Koestler aptly puts it in *The Act of Creation*, words "crystallize thought; they give articulation and precision to vague images and hazy intuitions."

This, perhaps, is the most appropriate way to view the relationship between thought and language. Writers, scientists and others often find it difficult to convert their ideas into words probably because of this crystallizing function of language. This function has probably even impeded progress in some scientific domains. The over-precise meaning of words has at times made it difficult for scientists to describe their discoveries. Physicist Enrico Fermi is said to have coined the word

Marcel Danesi, associate professor of Italian studies, based this article on research for Applied Psycholinguistics, co-author Renzo Titone, University of Rome. (U of T Press)

“neutrino” during an exchange at a conference. He was reportedly speaking to an Italian audience about this new particle which still lacked a name. Asked if it was a type of neutron he added the suffix “ino” saying that it could be conceptualized as a small neutron: a *neutrino*. The word has remained in the physics vocabulary.

Einstein could never have transformed our view of the universe had he accepted the meaning of the words “time” and “space” as used in classical physics. These two words have come to signify something completely different in the world of relativity physics since Einstein. Examples such as these suggest that language can become a screen which stands between people and reality. It seems logical to assume that if thinking in one language can be constraining, the ability to think in more than one language can help loosen some of the constraints or at least provide an alternative system for screening reality.

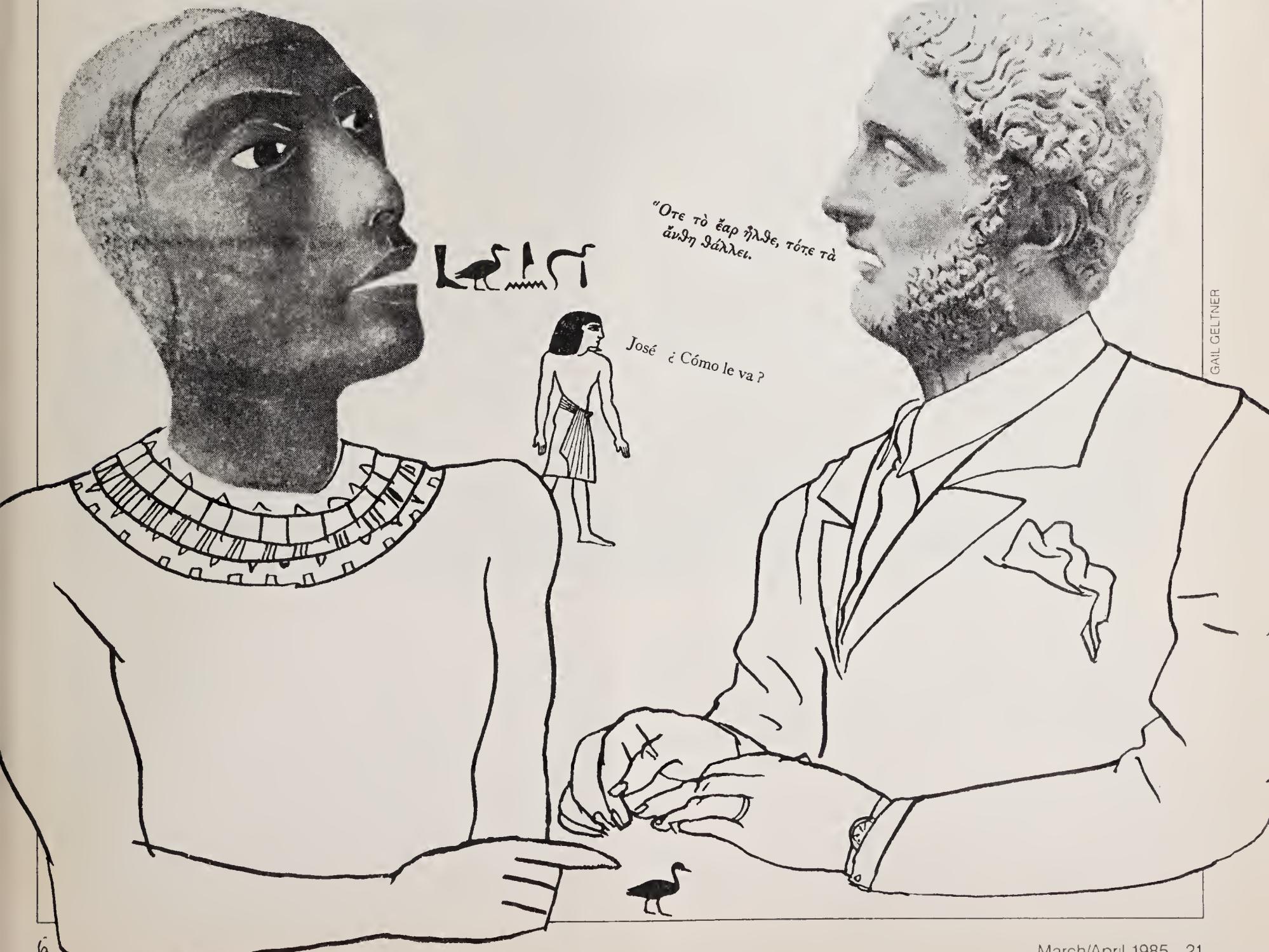
It is difficult to demonstrate empirically whether or not a word determines a certain concept. Whatever the truth, there now seems to be no doubt that thought is closely linked to language — the two are inextricably woven. It is in *thinking* that the language learner will reap hidden benefits.

In teaching my students to use words and structures which refer to reality in subtly different ways, I have

noticed an increase in mental flexibility. Colour terminology, kinship nomenclature and the like are generally different, since one language will make distinctions another will not. Learners soon develop the ability to see the differences in question through the acquisition of the appropriate terminology and language structures. This dimension of the language learning phenomenon has implications for teachers. Psycholinguist John B. Carroll observes that someone learning a second language “must be taught to observe and codify experience as nearly as possible in the same way as native speakers of that language.” This implies that the teacher must understand beforehand the basic differences between the representational systems of the learner’s native language and the language to be taught.

All in all, my classroom experiences have shown me that regardless of the reasons why students took a language in the first place, they have benefited from an increased mental flexibility. As they learn the words and patterns of another language they learn to view the world in different ways.

They also become more sensitive to the nuances of their own language. As Goethe said: *Wer kennt nicht eine fremde Sprache, kenn nicht seine eigene* (The person who doesn’t know a foreign language doesn’t know his own.) ■



MEDICAL STUDENT

BY ARTHUR KAPTAİNIS

BOREDOM ENDS IN SECOND YEAR

WHENEVER I SPEAK TO KINGSLEY, A HIGH SCHOOL buddy who is now in medical school, he has a new story to tell. Ask him a boomerangly significant question about his experiences ("Isn't the life of a medical student fascinating?") and the answer is diffident, as it must be. But the little stories — about teachers, patients, students and classrooms — are always close at hand.

Earlier this year, I heard a story that finally convinced me there must be a big story behind all the little stories. Kingsley was telling another medical student about "some pretty heavy-duty cases" he had seen in the Clarke Institute of Psychiatry at the south west corner of the U of T campus, most recently a university student in his early twenties who was showing no "affect", that is, no expression in his face.

"So I started talking to him," Kingsley said, "and found out his father used to beat him up, he left home early, and all that. He said he never felt joy about anything in his whole life."

"Then I asked him if he had ever tried to commit suicide. He said yes, two weeks ago he had swallowed a bottle of sleeping pills."

"And?" asked the other student.

"Nothing happened. He just woke up 36 hours later. Probably not prescription pills."

"That's right, just antihistamines," said the other student, suspending his interest in the psychiatric dimension of the case just long enough to form a diagnosis.

"Right. Well, that didn't work, so he filled up the bath, got into the tub, turned on a colour TV, and dropped it in."

"You're kidding! How did he survive that?"

"I don't know," said Kingsley. "I think the tub wasn't grounded. The pipes go somewhere but the tub doesn't. He said when he was just sitting there he felt something, he felt funny, but when he touched one of the faucets he got a huge shock that jolted him backwards."

"Brother," said the other student. "Where did he get that idea?"

"He said he saw it on TV."

We looked at Kingsley. "I swear," he said.

After interviewing Kingsley at some length and running through the paces of a school day with him, I was able to

reach the following conclusions about the nature of a medical education:

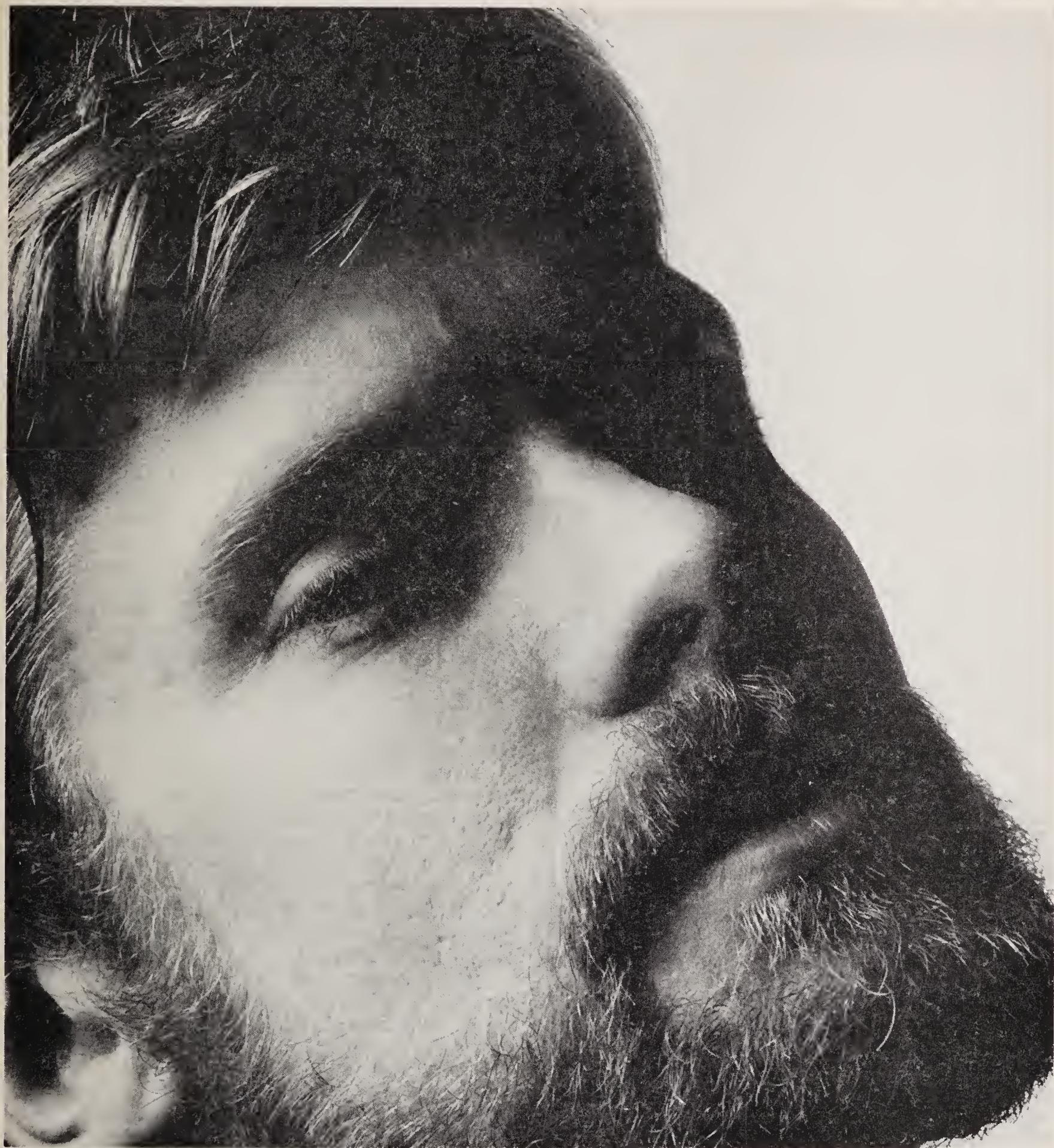
THE ACADEMIC WORKLOAD IS MANAGEABLE. AT LEAST for medical students, who have been deemed the most gifted learners in society. Kingsley, who never consciously flaunts his intellectual machismo, achieved a mark of 100 in first-year calculus at Queen's University. He never took another math course, turning instead to English and philosophy. "Best quit while you're ahead, eh?"

For years he was bored. "The problem with science is that it tends to be uninteresting at the lower levels," he says. "It doesn't get interesting until you're past the basic principles."

In second year, medicine has finally become interesting. First year was essentially an extension of pre-med undergraduate course work: intense instruction in biochemistry, pharmacology and anatomy, with cadavers replacing frogs on the dissection table. Kingsley was bored with the multiple choice exams and large lectures, and did not attend neuroanatomy at all, preferring simply to study the notes supplied to students by the department at the beginning of the year. Now, with lectures past the lower levels, and two afternoons a week devoted to diagnosing real patients in real hospitals, Kingsley feels he belongs.

IN THE CLASSROOM, THEORY IS NEVER PERMITTED TO leave practice behind. What is an M.D., anyway? A graduate degree in biochemistry or a high-level apprenticeship in auto repair? The answer, I could see, is that it is both. No matter how many statistics were flashed up on the screen in the genetics lecture Kingsley took me to, time was taken to stress their clinical implications. Amniocentesis, a common test for Down's Syndrome and other prenatal disorders, carries with it a certain risk of damaging the fetus. The needle inserted into the amniotic sac can create scars on the child, as further slides dramatically illustrated. In some cases, explained the lecturer, probability of injury through amniocentesis is greater than the probability of the sorts of disorders amniocentesis is supposed to detect.

Moreover, the appearance of statistical security given by recent advances in prenatal diagnosis masks a grid work of probabilities swaying gently in the wind. Often,



JOHN MASTROMONACO

the more sensitive the test, the greater the likelihood of a "false positive" result. New technology thus increases, rather than decreases, the number of decisions facing parents, and the job of giving advice becomes more complicated for the doctor. On flashed a slide of a happy, smiling baby, as the lecturer, with undisguised irony, said: "This extra-Y-chromosome baby, who might have been aborted had its condition been diagnosed, is doing just fine, thank you."

"Mmmm," said Kingsley, biting his thumb.

The classical case is never the first one you see.

ETHICAL ISSUES ARE NOT IGNORED. TAKE ABORTION. AT the same genetics lecture, there was a sequence of slides of a fetus in the womb. The students saw a foot, a hand, a pair of lips, all with the gauzily soft colours of a Vermeer, and murmured in astonishment. What better testimony to the sanctity of fetal life? Then came slides illustrating congenital spine defects — pitiful infants, many but not all stillborn, with gaping sinal fissures or

balloon-like growths of brain sprouting hideously out of openings in the skull. What better evidence of the humaneness, in some cases, of abortion?

Following the lecture was a seminar focusing specifically on the ethical issues raised in prenatal medicine. Should you instruct the parents of a genetically afflicted child not to have any more children? A colleague, said the seminar leader, another geneticist, was approached once by a couple who had had one retarded child, and loved it so much they wanted another. Perhaps the duty of the doctor is to determine, and act on, his patients' priorities, regardless of his own beliefs.

The discussion eventually turned directly to abortion, with no more consensus than might be imagined. Conservatives outnumbered liberals 11 to 6 at the beginning of the debate, and there was little sign of gain or loss to either side at the end. The geneticist had the last word. Perhaps the thing to remember, he said, was that neither the pro nor the con arguments are airtight. There is evil in abortion, and evil, in certain cases, in permitting a severely afflicted child to be born. "I am not saying there is no evil in abortion," he said, "but in some cases, perhaps, the balance of evils is in favour of abortion."

THE CLINIC IS ULTIMATELY MORE IMPORTANT THAN THE classroom. Not just because students get their hands dirty and hear coughing that is horrible beyond words. There is nothing like a clinic, with a tough taskmaster, to force a student to think on his feet. This was obvious after Kingsley took me to his family practice clinic at the Toronto General Hospital, which frequently treats patients whose conditions have been judged too complex or too rare to be dealt with elsewhere in the province.

After examining an obese and unemployed woman with asthma who was interesting mainly as a profile in unhappiness — to write "asthma" on a job application form was as good as writing "leprosy", she said — Kingsley joined his five classmates in a seminar room. Here, findings were reported to the clinician, a man in his thirties with a gift for keeping students on their toes without becoming overbearing or threatening. No matter how intense the questioning, he always remains subtly on the students' side.

He is immensely respected for this. Later in the day, it did not bother Leo, who is perhaps the most eager in the group to volunteer answers, to report that he did *not* hear rattling in a patient's lung (he picked it up when he listened again). At other clinics, with more imperious clinicians, the temptation to answer "Yeah, I hear it" is hard to resist. With this clinician there is no harm in being honest. Kingsley adds: "Besides, it is worse to hear something that isn't there than not to hear something that is."

"All right," began the clinician, "who's got a story?"

Leo was the first to indicate a wish to report. His patient, Mr. Brown, had a speech impediment, was slightly mentally retarded, suffered from cerebral palsy and was confined to a wheelchair. He was in for urinary disorders; his desire to pass water was as continuous as his failure to do so. His eyes had greenish patches —

"When you say his eyes, that doesn't tell us anything," the clinician interrupted.

"His retinas," Leo responded.

And so it went, a Socratic dialogue. Leo found that Mr. Brown's legs were insensitive to touch tests from either rolled up Kleenex or a tuning fork applied gently to the skin. The clinician interpolated: was the patient's testimony reliable? A surprise pin prick would have settled the matter. But no matter. The most interesting aspect of Mr. Brown's condition was his bounding (that is, heavy) pulse. It was this that the group as a whole would examine.

The clinician began by taking the patient's pulse.

"Hold hands," said the patient, who was amazingly high-spirited considering the maladies that afflicted him. "Who's getting married, me or you?"

"Well, I'm already married, so it must be you. Come have a listen," the clinician said, turning to the students without a break, "to Mr. Brown's pulse." The use of the patient's name, instead of "his", seemed to soften the impersonality of the examination.

The students lined up, each taking a stethoscope to Mr. Brown's chest. As Carson, a quick-witted and constantly joking Chinese student, bent over to listen, the patient said, "We meet again." There was a moment of silence. Mr. Brown had mistaken Carson for Leo, who is also Chinese.

"Yeah," said Carson calmly. "We meet again."

There was a sense of acute interest in this patient, because his problems were readily perceptible and interconnected. The students pored over him like antiquarians over a newly found Rosetta Stone, reporting symptoms, hazarding conclusions. And the patient loved it. At one point the clinician repeated Leo's sensitivity test, touching Brown's leg with a rolled up Kleenex every two seconds and asking if he felt anything. No, no, no, said the patient. Then the clinician stopped asking, but continued to dance the paper on and off his leg. No, no, no, the answers kept coming. The clinician rolled his eyes at the students. Mr. Brown had indeed been lying.

YOU AREN'T A DOCTOR UNTIL YOU HAVE LEARNED TO expect, and deal with, the unexpected. Rote learning of classical symptoms and classical cures will always be with us, just as knowledge of paradigms is crucial to the learning of a language. But until you are prepared to cope with irregular verbs, don't bother even trying to ask where the train station is. Statistics, in prenatal medicine, do not make your decisions for you. Neither do your personal ethical leanings, which may be disqualified by your duty to act in your patient's best interest. Patients do not always provide truthful testimony. Nothing, in fact, can be relied on to be precisely what it seems.

"So often," Kingsley says, "all the things you read about in your textbook just don't happen when you are in the clinic, because the classical case, the one that shows all the symptoms, is never the first one you see. So I think their idea is to engender in us a healthy sort of scepticism in our approach to medicine, which, intellectually, can be frustrating as hell."

"But I remember talking to an intern, who said that for the first time since studying medicine, he feels that if somebody fell on the emergency room floor clutching his heart, he would know what to do. To be able to take control of a situation — that, I think, is enviable." ■

ETHICS: A CONTINUOUS 30-YEAR STRUGGLE

I WISH TO COMMEND THE EXCELLENT article "Ethics and Engineering" (Jan./Feb.). It ranged widely beyond ethics and touched on several deficiencies of engineering training as I see it — too narrow and academic. I am also impressed by Jack Stevenson's pragmatic approach to teaching the course in ethics — relevance is the key element.

I'm of the class of 4T0 Mechanical and now retired. After several years in the Navy I joined the work force in industrial manufacturing after the war. Obviously unprepared for management, business economics and communication, a number of us found ourselves taking extension courses to broaden our perspective. Many of these were irrelevant, too. Ethics did not arise until later in more responsible positions.

Over the past 30 years in an engineering capacity I have been amazed by the general lack of pragmatism of engineers providing consulting services. I was involved in high speed machinery using both flammable and toxic substances. It was a continuous struggle to keep the work place safe for people and the environment. Management was generally co-operative but I had to lean heavily on various regulatory and licensing authorities to counteract the ever-present cost/benefit pressure.

Now I am doing a little consulting work for a firm in B.C., working with a pair of Ontario-trained engineers. They are aware of the toxic, explosive and environmental hazards of several key products being processed and accept the need for certain general precautions.

However, I am astounded at their almost complete ignorance of the impact of regulatory authorities and absence of personal concern for the omissions in their design concepts. My ethical problem is that this aspect of the larger project is outside my terms of reference. I have warned them as to the costly extent of these fire and safety requirements in general but so far they have had soothing reassurances from the local building and fire underwriter consultants. Time will tell.

These real life work experiences account for my favourable response to the article and the awareness at U of T. It is encouraging to think that the current

crop of engineers will receive a more rounded education to face today's hazards and responsibilities.

*J.D. Gardiner
Rexdale*

Do you realize how deeply the article "Ethics and Engineering" offended all engineering students, past and present?

Not interested in ethics and morals, indeed! Just reflect a minute on why a young man would tinker with mechanical objects, why he would take up engineering in the first place. (I am a man and only know how men think, but probably all I am saying applies to women as well.) He does that in order to create something that is better, cheaper, simpler and, yes, safer, than what we had before. This is an absolutely basic idea behind engineering. And if we do create something better, cheaper and safer, then the entire community is well served; otherwise we wouldn't see any sense in doing it.

Ethics is, by definition, one of the major motivating factors for a young person taking up engineering. It is an integral part of his personality. Just as a medical student goes into medicine to learn to cure people and not to poison them, the young engineer wants to create something worthwhile, not to contribute to the destruction of the planet.

As to the "hypothetical situations" these courses deal with, in three decades as a telephone engineer I have never once encountered any situation where I would have been asked to falsify technical facts (or any other). When judging the merits of a project, the ultimate criterion was always: "is it service affecting?" and the project would have no chance if it was. Is this not an ethical attitude?

*L.F. Thomay
Ottawa*

"Nothing but trade schools," said a senior U of T official, as he described Ontario's community colleges a few years ago. "Do

Letters may be edited to fit available space and should be addressed: Graduate Letters, Department of Communications, University of Toronto, Toronto, M5S 1A1.

you know," he asked, "that they actually try to teach social science? And the humanities?" He went on to insist that if the liberal arts were to have a place in the colleges, then surely only university faculty ought to teach them.

As a then 12-year veteran of community college teaching, who also possesses a B.A. and three post-graduate degrees, I bristled a little but soon dismissed the matter largely as an unfortunate instance of post-doctoral snobbery. I cheerfully returned to my labours where I have been "trying to teach social sciences and the humanities" since 1969.

I was reminded of this incident by the article "Ethics and Engineering", wherein it became apparent that some university professors are facing problems and working on solutions that are not unfamiliar to those of us who have made careers teaching not only engineering technologists but also students in the dozens of vocational programs that colleges provide.

It is difficult to bridge the gap between the arts and the applied sciences, but is it too much to imagine that the equally large gap that separates college and university faculty might be narrowed with salutary benefits for all? A mutual recognition of shared problems and a genuinely reciprocal discussion of successful teaching methods might make for considerable progress. Too often arrogance on the one hand and defensiveness on the other have obscured the fact that college teaching and undergraduate university teaching are not all that dissimilar. At least as far as post-secondary instruction is concerned, we could learn much from each other.

*Howard A. Doughty
Co-ordinator, Electives Program,
Seneca College of Applied Arts
and Technology
King City*

Congratulations on a stimulating and thought provoking magazine. I enjoyed the Jan./Feb. 1985 issue. "Life and Laughter" by Robina Salter, was especially appropriate. I immediately went downstairs to find my scrapbook of *Saturday Evening Post* cartoons. It is so well worn with pages loose and torn that it hardly holds together. It helped to get my children through university and before that favourite cartoons were used to help court my wife.

The editorial, "Ethical Dilemmas" was powerful as was "Ethics and Engineering". Keep up the good work.

Robert H. Crawford
Willowdale

The article "Godfrey Ridout: Warmth and Wit" reminded me of a comment Godfrey made to me when I was a student. Referring to his 'pianistic' approach he said that he played the piano *acidiously*.

He attacked the piano — enthusiastically, with dreadful results.

I always enjoyed my lessons with Godfrey; his enthusiasm, clarity and guidance were an inspiration — a teacher and a friend, warmly remembered.

Donald K. Peacock
Mississauga

In the "Ethical Dilemmas" editorial of Jan./Feb., an example of "simple barter designed to avoid income tax" was given. It was stated that because of this "society suffers . . . It's beating the system. And wrecking it."

I have lived in Canada all my life, yet I have never understood why I must pay income tax for the privilege of working. The more my work is valued the more I must pay. The realization that I now pay about 53 per cent of my earnings in taxes has severely dampened my protestant work ethic.

I am told that these taxes support people who cannot support themselves. This is, in part, true. But we all know that our governments are too large and that they are wasteful. This is bound to

happen when we expect our governments to "protect" us from so many things — milk price changes, child care costs, and even loss of income, however temporary. The cost of government would be greatly reduced if we all accepted responsibility for ourselves instead of depending on "big brother". This insidious dependence is costly to our pocketbooks and our self esteem.

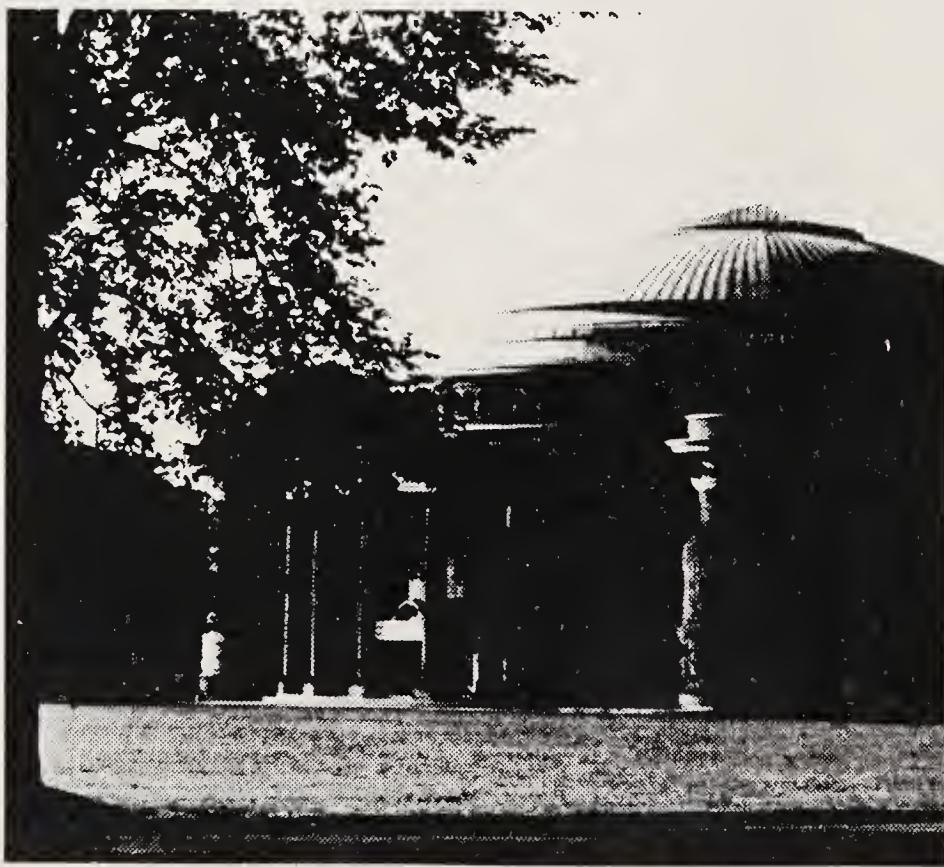
I can only applaud people who beat this system and, hopefully, wreck it.

Margaret Coe
Sarnia

Congratulations to Judith Knelman for her article "Portraits of Student Life", and to John Mastromonaco for his cover photograph, in the Jan./Feb. 1985 issue of *The Graduate*.

During the summer my colleagues and I will be speaking with the incoming 1985 Innis students. What better way for us to address, in part, their questions and concerns about their futures here at U of T than to give each of them this copy of *The*

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SIXTY-FIVE PER CENT OF U OF T alumni believe that they have a responsibility to contribute directly to universities rather than just through their taxes, according to a recently completed study commissioned by the Department of Private Funding and conducted by Market Facts of Canada Ltd.

"When the Varsity Fund executive met to consider its long-range plans in the fall of 1983, we realized that we needed a strategy to increase annual giving and to improve the participation rate among alumni, which was 13 per cent at the time," explains Varsity Fund chairman Malim Harding (U.C. 3T1). "Joan Johnston (St. Mike's 6T8), the president of the UTAA and a marketing expert, convinced us that the first step was to do some market research."

The study, which cost \$41,000, canvassed 600 donors to the Varsity Fund and 600 non-donors to determine whether there were identifiable demographic and attitudinal differences between the two groups. The sample was selected to ensure representation from different colleges and faculties and a range of ages. The identities of the respondents remain confidential and are known only by Market Facts.

"In total, it's a good size sample," says Market Facts president John Robertson. "The Gallup Poll, for instance, is a little bit over 1,000 for the whole country. The findings should be accurate to within plus or minus three and a half per cent, nine out of ten times."

The 20-minute telephone survey tested

alumni perceptions of non-profit organizations in general and the University of Toronto in particular, determined which non-profit activities had the highest priorities with respondents, examined respondents' reactions to different fundraising techniques and discovered which U of T projects appeal most to graduates.

The results are encouraging. Some 73 per cent of alumni canvassed perceive that government support to universities gets less each year and the same percentage agree that universities cannot reduce their budgets any further without reducing the quality of education. Over 90 per cent of respondents are proud to identify themselves as U of T graduates, believe U of T has an excellent reputation in the community, found their university experience stimulating and agree that U of T developed their abilities to think and express themselves. While donors are generally more favourable in their attitudes, non-donors lag behind only slightly. What's more, demographically there are no significant differences between donors and non-donors.

With all this good will, why don't more alumni contribute to the Varsity Fund? First of all, only 50 per cent of donors and 31 per cent of non-donors remembered receiving a Varsity Fund appeal in the past year. After being reminded, 71 per cent of donors and only 49 per cent of non-donors said that they read all or part of the solicitation material.

Another problem is that, while the Varsity Fund emphasizes contributions to individual colleges and faculties, 34 per

cent of respondents (31 per cent of donors and 37 per cent of non-donors) would prefer to give to U of T as a whole and 28 per cent (26 per cent of donors and 31 per cent of non-donors) to a specific department.

Finally, although 96 per cent of those surveyed have made donations to non-profit organizations in the past two years, support to educational institutions is well down on their list of priorities. Donors rank educational institutions fourth, after religion, medical research and social services. Non-donors also place international aid and development, politics and arts and culture ahead of education.

"We need to approach our alumni more frequently, to educate them to the crucial role the University plays in our society and to give them a wider range of options for giving," concludes director of private funding Lee MacLaren. Members of the Varsity Fund executive agree that the survey has provided the information necessary to plan for the future.

"Recent political polls indicate the reliability of this kind of research — whether we like them all that much or not," says John Robertson. "The U of T faces marketing problems similar to those of any large corporation. They have tough financial requirements to meet efficiently and effectively. This survey enables the University to take advantage of sophisticated modern techniques to make sound business decisions."

SCARBOROUGH RACE BECOMES A MARATHON

DEMOCRACY IS ALIVE AT SCARBOROUGH. Too often, elections to executive positions in alumni associations impress the objective observer as empty exercises recognizing a previously established reality. More simply, there's no contest. Not so at Scarborough where two slates of candidates waged a heated campaign for nearly ten months.

For the old guard, Rick Mewhinney (8T1), former treasurer of the association and Varsity Fund board representative, ran for president. His running mates were Susan Nutter (8T1), former vice-president seeking re-election, and Larry



Whatmore (7T0), running for treasurer.

The young turks were led by David Fulford (8T3), who has impressive political credentials. He served as president of the Scarborough Student Council in 1982-83 and lost a bid for the SAC presidency in 1983 by only 100 votes. On his Scarborough ticket were alumni association neophytes Eric Cohen (8T3) for vice-president and Shona Nicholson-Fox (8T3) for treasurer.

Carol Shetler (8T1) won the position of secretary by acclamation.

Originally ballots appeared in the spring 1984 issue of SCAN (Scarborough Campus Alumni Newsletter) which was distributed in the May/June *Graduate*. Unfortunately, printing problems delayed delivery of that issue. "The deadline for returning ballots was the first week in June to coincide with our alumni association meeting," explains Scarborough communications officer Doreen Marks. "We postponed it until the third week but even then we had received so few ballots that we rescheduled the election for December and reissued the ballots.

"It was a reasonably close election," Doreen reports, "but the results were conclusive. Nobody could ask for a recount."

The Fulford-Cohen-Nicholson ticket was elected.

"It wasn't really as exciting as other election victories," says Fulford. "I'm just glad it's finally over and we can get on with it. The first thing we want to do is appoint two members of the previous executive to this year's executive. We need their help and experience and we're looking forward to working with them. We can all be winners."

"Right now, we're not looking for people's money so much as for their support," says Fulford, describing his plans for the future. "We want to get everybody involved, from 6T8 to 8T4. We're trying to involve students before they graduate and we hope to have a faculty member sit on the alumni association. We think the alumni can take a more aggressive role from a financial point of view but also from a community perspective."

This year's program includes the second annual February Frolic, a dinner dance jointly sponsored with the students' council, a March book sale, public lectures in the spring and fall and a fall forum to address the problem of youth unemployment.

Fulford is currently in a management training program with Allstate Insurance in Scarborough. Cohen is an underwriter with Safeco Insurance and Nicholson-Fox works at the Toronto Board of Education offices. Shetler works for a company that provides public relations and secretarial services for national associations.

WILL A DIPLOMA HELP YOU AGE WELL?

THE SENIOR ALUMNI ASSOCIATION HAS donated \$2,500 to U of T's Program in Gerontology to conduct a research project on successful aging. A group of active Senior Alumni and a matched group of alumni who aren't involved in association activities will be mailed a questionnaire developed by the gerontology program.

"We'll study demographics, health and life satisfaction to gather information about the possible impact of higher education on the ability to adapt to change," explains program director Professor Blossom Wigdor. "The Senior Alumni will distribute the questionnaire to maintain the privacy of the respondents."

The partnership between the program and the Senior Alumni Association is a unique example of co-operation between an academic discipline and the people it studies. It was only natural for the alumni to take an interest. The late Wilson Abernethy, founder of the Senior Alumni, served on the task force which recommended the program, on the selection committee that picked Professor Wigdor as its first director and on the program's advisory committee.

His dedication to the program is recognized by a \$10,000 fund contributed by the Senior Alumni for the acquisition of resource material for the program's information centre, a \$150 annual prize awarded to the student with the highest grades in the core courses in the diploma program in gerontology at Woodsworth College and an annual lecture given by an outstanding visiting scholar. All of these memorials are named for Abernethy.

"Right from the beginning, we invited Senior Alumni to participate so that they could become resource people," explains Professor Wigdor. "They kept the professors honest. It worked very well."

Mary Coburn (Vic 2T9), who chairs the Senior Alumni Gerontology Committee, agrees. "We also did a fair bit of work during the internal and external review of the program, even submitting a brief," she adds.

The Senior Alumni were also instrumental in the development of pre-retirement courses for U of T faculty and staff. Allan Upshall (Trinity 2T9), who has co-ordinated similar courses for alumni since 1976, convinced Professor Wigdor to encourage the Personnel Department to offer the eight-week course twice a year. Upshall acts as chairman.

"We're starting our sixth course this spring," he says, "and we have from 30 to 35 participants in each session. Professor Wigdor gets a lot of speakers from



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the University and we use them whenever we can. For instance, she gives the first lecture on adjusting to retirement and other faculty members talk about legal implications and continuing education. We get a lot of help from the University's benefits manager, Neil Burnham. I got involved because, for 25 years before I retired, I handled the retirements of everybody who retired from Eaton's."

This year for the first time, four Senior Alumni addressed Professor Wigdor's introductory course in the diploma program. "They talked about their backgrounds, their involvement in volunteerism before and after retirement, how they overcome minor physical disabilities," says Professor Wigdor. "Among the four there was a good range of experience. The students loved it." Even though, according to Mary Coburn, an Anglican minister in the course said they all sounded like Methodists.

"We aren't," she hastens to add. "I think we were all very relaxed and enjoyed it. The thread of what we had done before came very clearly through in what we do now."

By the year 2021, when most baby boomers will have reached senior status, from 14 to 17 per cent of Canada's

population will be aged 65 or over. The research done by the Program in Gerontology and the co-operation and interest of the Senior Alumni Association will ease their adjustment to retirement.

LECTURES & LUNCHES FROM COAST TO COAST

THE SUN NEVER SETS ON THE U OF T'S alumni. Recent branch activities include everything from a lecture in Montreal to a lunch in Florida.

The Montreal branch welcomed McGill University medical researcher Geoffrey Melville Jones in November. His topic was "The sensations of a lifetime." Professor John Crispo of U of T's Faculty of Management Studies addressed the Ottawa branch on Canada's future in a lecture titled "Where do we go from here?" The Chancellor and Mrs. Ignatieff visited alumni in Southern California and met with alumni of U of T and other Canadian universities in San Francisco in January. President Connell, who was in town for a meeting of the Associates of the University of Toronto, Inc. in January, spent the evening with the members of the New York branch. Finally, the Florida Suncoast branch scheduled their annual luncheon meeting in Madeira Beach for March 14.

The New York, Ottawa and Calgary branches also organized successful fall phonathons to help increase local contributions to the Associates and the Varsity Fund.

THIS, THAT AND THE OTHER

WHEN THE BIG BRANCH POINTS TO THE six and the little branch points to the nine . . .

The UTAA has sold 888 Seiko watches to alumni for a profit to the organization of \$26,640. Each watch features on its face the U of T crest with its famous tree. The watches come in several styles and cost from \$225 to \$250. The UTAA, which made the decision to become financially independent in January, will use the proceeds of the sale to support its regular program of activities.

The Alumni Faculty Award dinner is scheduled for Wednesday, April 10 in the Great Hall at Hart House. The event, a highlight of the alumni season, honours the winner of the Alumni Faculty Award and the 1985 Moss Scholars. Tickets are \$20 and are available from Alumni House, 978-2365.

For the first time, the Varsity Fund, the U of T's annual appeal to alumni, has topped \$2 million. In 1984, the fund received 20,028 gifts amounting to \$2,325,263. These figures compare with 18,289 gifts and \$1,934,131 in 1983. Details will appear in the Varsity Fund Annual Report in the May/June Graduate.

The Engineering Society will celebrate its centennial with a gala reunion dinner and dance at the Royal York Hotel on June 1. Tickets, at \$85 per couple, are available from the Engineering Alumni Office, 978-4941.



University
of Toronto
Alumni
Association

Annual Meeting Tuesday, May 21, 1985 Hart House

Order of business:
annual reports
appointment of auditors
election of officers
other matters

Please note that alumni must submit items for the agenda to the secretary by May 14, 1985.

Information:
Department of Alumni Affairs
47 Willcocks St.
University of Toronto
Toronto, M5S 1A1
(416) 978-2365



ARNOLD MATTHEWS

"Comparisons are odorous" Dogberry in *Much Ado About Nothing*. When Innis student Barnaby Southgate stepped on the stage as master constable Dogberry in *Much Ado About Nothing* in February, he established a family tradition and made Hart House theatrical history. His actor father Rex (Trinity 5T7) played the same role in the only other Hart House production of *Much Ado* in 1953. Theatre critic Herbert Whittaker, who furnished the photo of the first Dogberry in rehearsal with Verges, directed and designed the Trinity/Vic co-production. This year's *Much Ado* was the final play in the Drama Centre's 1985 Hart House season.

WOODSWORTH STUDENTS GIVE SHOT IN THE ARM TO FUND



PHOTOGRAPH BY STEVE BEHAL

WOODSWORTH COLLEGE PRINCIPAL Arthur Kruger is happy with the financial and moral shot in the arm provided by the students who imposed a \$20-per-session levy on themselves in support of the college's Building Fund. This levy directs \$200,000 a year toward the expansion of the college from what the principal has called an office building to a "social space" with classrooms, lecture theatres, professors' offices and a pub.

An architect's model was unveiled early this year that vividly illustrated how dramatic the changes will be. Woodsworth currently occupies a big, old Victorian-style house at 119 St. George Street. The future Woodsworth will be linked with the Centre for Industrial Relations and the Media Centre, at 121 and 123 St. George, by means of a rear addition. Style will be old-plus-new, in deference to the St. George buildings, which are on the inventory of the Toronto Historical Board. The Drill Hall will be an intriguing mix of hell and heaven: a theatre suitable for writing exams downstairs, and a pub upstairs.

The students' commitment is by far the largest to date. At the time of the referendum, the fund stood at approximately \$30,000, with one outstanding individual contribution of \$25,000. Woodsworth alumni will be contacted through the Varsity Fund, while the college administration makes overtures to corporations, foundations, and governments. The University has already submitted a capital funds request to the province for about \$200,000 in architects' fees. Six to seven million dollars is the final cost figure currently in the air.

Kruger says the student show of support will strengthen his efforts to woo

Two views of the St. George design and model by R.A.K. Richards, architect



other sources. It does not help, however, that only 137 of approximately 6,000 eligible voters turned out for the two-week referendum. Why so few? Part-time students are busy, says Kruger. Moreover, student apathy is common everywhere. Student members of Governing Council are usually installed by acclamation. "I have to believe this kind of vote," says Kruger, "reflects the distribution in the student population at large."

A POLICY IS BORN

APPROPRIATELY ENOUGH, IT TOOK NINE months of debate for the Council of the School of Graduate Studies to finalize a policy allowing women graduate students maternity leave of one to three academic terms per pregnancy. Formerly, such students applied for leave for health reasons, and had their deadlines extended, individually, as far as SGS saw fit. The current policy codifies and systematizes the practice.

While on maternity leave, students are neither required to pay fees nor permitted to collect fellowships. Sounds fair? Not to the president of the Graduate Students' Union, who trenchantly observed that "people need money to live while they are on leave". And the next stage in the on-going struggle for par-

Unclaimed Diplomas

If one of the many unclaimed diplomas in the Office of Academic Statistics and Records, eighth floor, Robarts Library, is yours, why not pick it up or have it sent to you by registered mail?

If you pick it up, you will need identification; if you send someone, please provide a letter of authorization.

If you write, address your letter to: Diplomas, Office of Academic Statistics and Records, University of Toronto, Toronto, M5S 1A1, and enclose a certified cheque or money order for \$6.50.

All of the following information, typed or printed is required: your graduation name; address; date of convocation; degree; faculty or school and college if applicable; student number. If your name has changed since graduation, please provide some proof of your former name.

All May/June 1983 diplomas not picked up will be destroyed on September 3, 1985. A replacement fee, currently \$30, will be assessed after that date.



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ental rights, according to the GSU, is securing paternity leave.

In any event, the policy may not see much use. Says Peter White, secretary of the SGS: "Most graduate students are so committed to their program that they jolly well plan their families around it."

BIG FOUR LEAGUE? OR FIVE, OR SIX?

THE BIG FOUR LEAGUE — THE SUBJECT of much optimism in earlier Campus News columns — has been pushed back at least a year by a University of Western Ontario special committee on athletic league realignment. This group has disclosed little information besides its determination to report by March 15, a deadline too late, whatever the outcome, for the Big Four universities to start by September.

Western's circumspection did not stop the student newspaper, *The Gazette*, from publishing confidential documents suggesting that the overwhelming majority of committee members are unsympathetic to the new league. The breach in confidentiality caused a temporary stir, but the committee decided to forge on according to its original mandate.

Meanwhile, the presidents of the other hypothetical Big Four universities (Varsity, McGill and Queen's) have called on the Council of Ontario Universities to examine the realignment question, the discussions with the Ontario Universities Athletic Association having reached a stalemate. The original deadline for a report from that organization — March — has been moved back to June. According

to Deep Pass, our inside source on matters athletic, "they're taking their time."

Will the Big Four disappear? Perhaps, but some league reform seems inevitable, since other universities have expressed interest in joining an elite division. No one is saying which universities, but McMaster and York fielded strong football teams last season.

BLUES TO DEFEND CIAU CHAMPIONSHIP

IN THE WORLD OF HOCKEY, THE JUNIOR A system is no longer the only ticket to the NHL. On this year's Blues squad, centre and captain Darren Boyko, goaltender John Kemp, defenceman Ken Duggan and manager Darren Lowe were selected for Team Canada's meetings with the touring Moscow Dynamo, and the games at the Spengler Cup Tournament in Switzerland.

You can see the Blues defend their CIAU national championship at Varsity Arena March 15-16-17, when they host three other top teams in the season's final tournament. Series tickets are \$31. Phone 978-8759 for details.

SALE OF UTLAS A GOOD DEAL

ON THE SURFACE, IT LOOKED AS THOUGH the University took a beating on the sale of the U of T Library Automation Systems (UTLAS) to International Thomson. For \$1 million in immediate



100 YEARS: Women at UofT

An exhibition organized by the Public and Community Relations Office in celebration of the centenary of admission of women to the University of Toronto will be on view in the main display area of the Robarts Library from March 19 to April 30

THANK YOU

to the many readers who responded to our invitation to become voluntary subscribers to *The Graduate*. To those who intended and forgot, the invitation is still open. Send \$10 to *The Graduate*, 45 Willcocks Street, University of Toronto, Toronto, M5S 1A1 and mark it voluntary subscription.

cash, Thomson got a company on which the University had spent \$12 million since 1971.

However, the deal, complex and largely confidential, included an agreement diverting to the University a certain percentage of all UTLAS sales income. Mind that word — sales, not profit. Regardless of the profitability of UTLAS, U of T will collect. The more UTLAS sells, the sooner U of T will get back its \$12 million.

Another clause permits the University to be used as a test site for UTLAS developments, such as a new computerized library circulation system and a new access catalogue to replace the current microfiche system. For playing guinea pig, the University again will receive a fee.

N.B.: *Tempus fugit*, even in libraries. In the mid-70s, the microfiche terminals in Robarts and Sigmund Samuel looked and felt like something out of a sci-fi flick. To use them now offers about as much high-tech fulfilment as cranking up a Model A Ford. Even rifling through the primitive card catalogues remains an aesthetically agreeable experience — say, like taking a horse and buggy ride. On the other hand, microfiches and catalogues have one advantage over computers, and for that matter, Fords: they don't crash.

TA STRIKE VOTE: IF AT FIRST ...

THE LENGTHY CONTRACT DISPUTE between the University and its teaching assistants, represented by Local 2 of the Canadian Union of Educational Workers, came to a dramatic head in February when a vote to authorize a strike fell eight short of the two-thirds majority required by the union's constitution. More than a thousand of about 2,400 assistants turned out for the event, which was preceded by a vigorous union ad campaign and the publication in the *Bulletin* of both union proposals and administration offers. *The Varsity* generously permitted the union president to contribute two polemics to its op-ed pages; its rival *the newspaper* characteristically opened prime space for a column by a vice-provost.

Money was not at issue: even the union conceded that six per cent in the first year and five in the second was an acceptable settlement. It really came down to a fundamental question of status. Is the teaching assistant a labourer or a student? Union officers clearly presupposed the former, as one of *The Varsity* pieces demonstrated, with its telling references in the final line to "job protection" and

"quality working conditions".

The split on this fundamental question could be traced in specific disputes. For example, the University wanted to retain the right to include teaching as an academic requirement of some courses, while the union executive, having assumed that its members are workers rather than students, regarded "teaching courses" as forums for unpaid labour. Naturally, the union made the sorts of demands all unions make: more control over "hiring", more protection against "overwork".

The vote revealed that a substantial if not dramatic number — 373 to 723 — of teaching assistants resist the executive's conclusion that they are full-fledged members of the proletariat. This, however, merely steeled the executive in its determination to get the contract it wanted. One possibility discussed at a union meeting was to revise the union by-laws to permit a smaller majority to authorize a strike. Finally, the 200 present simply decided to hold another strike vote (being tallied as this issue went to press).

"It may seem slightly irregular to hold a second strike vote," one union executive member told the *Bulletin*, "but we feel we have no mandate to sign in the present situation. Our members might have thought we could get a better deal without a strike, but now they've seen how little 723 votes mean to the other side."

AND MAYBE A NEW RIBBON, TOO

WHEN ALUMNUS AND FORMER U OF T political economy professor James Eayrs was presented with the Canada Council's \$50,000 Molson Prize early this year, the first order of business was clear: buy a case of Brador. This purchase, however, left the Dalhousie professor with some pocket money in balance. In his acceptance speech at the official presentation held at the George R. Gardiner Museum of Ceramics at Victoria University, Eayrs revealed how he plans to dispose of some of it:

"My ancient typewriter's had its time. I've kept it for its presumed totemic powers. Now I can trade up to something more state-of-the-art than a 1916 Remington. I want to add to our collection of work by four of Canada's best artists: Kay Graham of Toronto, Jane Donovan of Halifax, Peter Jansons of Brackley Beach, P.E.I., and Donna Clouston of Flatrock, Newfoundland — in the mysterious East."

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ELEMENTARY FIELD THEORY

YOU MAY REMEMBER THE OLD STORY about a farmer who divided an L-shaped field (Figure A) among his four sons so that each got a portion of exactly the same size and shape. Each small field is similar (i.e. a scaled-down version) to the large one. There are other shapes which will admit such a division, such as any rectangle or the quadrilateral of Figure B. This suggests some questions for exploration.

(1) Give examples of rectangles which can be divided into a finite number of smaller rectangles, each similar to the given one, but not necessarily all of the same size. Can you give an exhaustive list of possibilities when the number of sub-rectangles is two, three or four? (Two similar rectangles have proportional sides.)

(2) Apply (1) to triangles. (Two similar triangles have the same angles.)

(3) It seems pretty obvious that a circle cannot be subdivided into a finite number of smaller circles. Who has a neat argument that this is true?

(4) What polygons (triangles, quadrilaterals, pentagons . . .) can be subdivided into a finite number of equal sub-polygons, each similar to the given one? What are the possibilities for a division into two, three or four figures in particular?

Readers are invited to send their discoveries to: Aftermath, The Graduate, Department of Communications, University of Toronto, Toronto, M5S 1A1. Give diagrams, relative dimensions and angles.

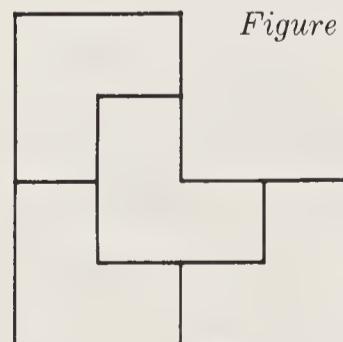


Figure A.

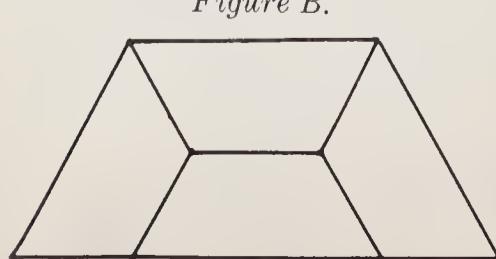


Figure B.

THE GRADUATE TEST NO. 30

THE WINNER OF THE Graduate Test No. 28 in the Nov./Dec. issue was Phyllis Robinson of Hamilton. A copy of *Art at the Service of War* by Maria Tippett has been sent to her. There were 228 entries.

As the prize for Test No. 30, the U of T Press has generously provided *The Canadian Prairies* by Gerald Friesen, professor of history at the University of Manitoba. Native leaders, immigrant farm families, Alberta oil barons and political reformers are found in this economic, political and social survey which traces the history of the prairies from 1600 to the present.

Entries must be postmarked on or before April 30. The solution will be in the next issue; the winner of Test No. 30 will be in the Sept./Oct. issue along with the winner of No. 31.

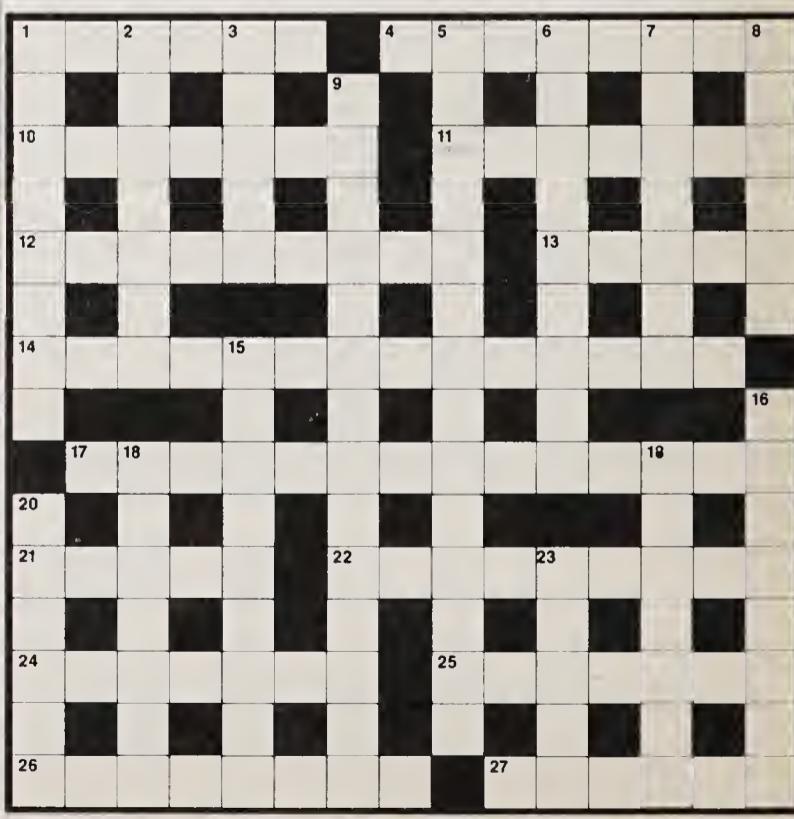
Address entries to: The Graduate Test, Department of Communications, University of Toronto, Toronto, M5S 1A1. And please don't forget to include your name and address.

ACROSS

- About court or priest (6)
- Co-ordinate basics as revealed (8)
- Savage warm fowl (7)
- Like one with pride, an age in staff division (7)
- PM would point to nurse with ring in gentle, sweet flower (9)
- Ultimately, make them stop it gently, though there's nothing in it (5)
- Moral elite — from Siberian mine? (4,2,3,5)
- Sawn-off weapons at one southern plant are below standard (14)
- Slow movement by football-player under fifty (5)
- Concordance with ten meagre alignments (9)
- His wail throbs in foreign tongue (7)
- Extreme to raise a heart? It's up inside. (7)
- Disorganized Reds confess if found in Turkey? (8)
- Doctor of transformation puts bit of kiwi-fruit in jelly roll (6)

DOWN

- About to perceive sound directions with practice (8)
- Discuss let up of possession (7)
- Alternative to returning to the woman (5)
- Poker, after a degree of outpouring loses one: the difference between imports and exports (7,2,5)
- Angry to be holding one being with disease (9)
- Pins up dog? Just a little bit (7)
- Yes, indeed; yes, yes! (3,3)
- Doc in train crash into strange brainwashing? (14)
- Speaker has one, so raised these compositions (9)
- Sly act I'm about to show is spiritual (8)
- Tell little Nathan to go about a rural route (7)
- Stealthily dropped a hundred in the open (7)
- Shut up, be beaten in leads of clubs and diamonds (6)
- Dodge Miss Gabor before becoming half dead (5)



Solution to The Graduate Test No. 29

G	I	R	T	H	F	I	T	T	I	N	G	L	Y		
Y	D	O	L	W	N	U	I								
R	E	T	A	L	I	A	T	E	S	T	A	T			
O	O	D	S	L	T	R	L								
S	T	R	A	I	G	H	A	M	S	T	E	R			
C	N	E	T	U	N										
D	B	L	I	G	E	H	A	M	S	T	E	R			
P	A	T	E	E	D	E	E								
E	P	I	T	H	E	T									
D	E	E	O	T	I										
E	X	P	R	E	M	E	N	T	A	T	I				
X	A	E	P	S	T	R	D								
C	A	P	R	I	E	L	U								
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The accompanying application
should be mailed by April 30, 1985.

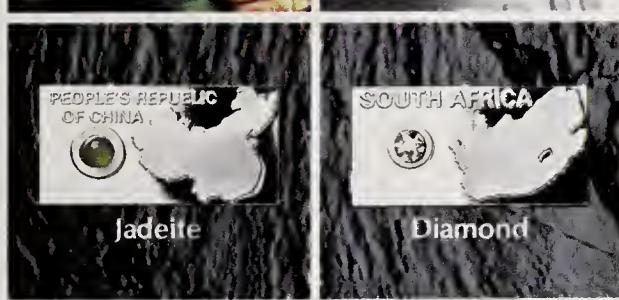
Since the dawn of history, men have been intrigued . . . fascinated . . . even obsessed by precious stones. And no wonder! For each of the world's gemstones has been endowed by Nature with its own irresistible allure, its own inimitable magic. The bewitching radiance of the Diamond, ablaze with inextinguishable fires. The rich red flame of the Ruby . . . the compelling blue of the Sapphire . . . the extraordinary brilliance of the Emerald . . .

Now, you have the unique opportunity to experience—and explore for yourself—the full richness and diversity of the kingdom of the gemstone. For The Franklin Mint has brought together in a single collection exquisite specimens of all the world's most treasured gemstones. The collection will bring you 63 different gemstones—every one of those traditionally used in creating fine jewelry, from Diamond to Moonstone, Topaz to Lapis Lazuli.

Each gemstone will be set into a solid sterling silver mounting. And displayed upon the silver, in rich frosted relief, will be an outline map identifying the country from which the principal deposits of that gemstone derive. Thus, the sumptuous red Ruby will be set against a map of Thailand, Amethyst will be identified with India, and Moss Agate with the United States. In addition, the reverse of each silver mounting will bear both the name of the gemstone it holds and data on its gemological properties.

To enhance your pleasure still more, each issue will be accompanied by an authoritative commentary written by Dr. Peter Bancroft, one of the world's foremost gemologists.

Further, because this is the definitive collection of the world's most coveted gemstones, it will include not only the classics known to all of us, but others most familiar to jewelers and experts—Citrine, Chalcedony and Rhodonite among them. The result: a collection that will be a source of endless delight and satisfaction to the entire family.



Jadeite

Diamond



Lapis Lazuli



Sapphire



Rhodonite



Ruby



Pearl

DIAMOND
Specific Gravity
3.52 ± .01
Mohs Hardness
10
925 (92.5%)

Typical reverse

As a subscriber, you will be able to build your collection at the convenient rate of one gemstone each month. The price for each gemstone in its silver mounting is just \$34.50, and this will be guaranteed for every issue, regardless of any rise in the cost of gemstones or of silver.

Gemstones of the World is a comprehensive, educational and beautiful collection comprising all 63 of the treasured gemstones traditionally used in creating fine jewelry. To subscribe, you need send no payment now. Simply sign and return the accompanying application by April 30, 1985.



A custom-designed display case will be provided to the subscriber as part of the collection.

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SUBSCRIPTION APPLICATION

GEMSTONES OF THE WORLD

Please mail by April 30, 1985.

The Franklin Mint Canada Ltd.
70 Galaxy Blvd., Rexdale, Ont. M9W 4Y7
Please enter my subscription for Gemstones of the World, consisting of sixty-three different gemstones, each set into its own sterling silver mounting, to be issued to me at the rate of one per month. A custom-designed collector's case, and reference material for each gemstone, will be provided to me as part of my collection. I may cancel my subscription at any time upon 30 days' written notice.

I need send no payment now. I will be billed at the guaranteed issue price of \$34.50* for each gemstone in advance of its shipment.

*Ontario and Quebec residents will be charged provincial sales tax.

Signature _____

ALL APPLICATIONS ARE SUBJECT TO ACCEPTANCE

Mr. _____
Mrs. _____
Miss _____

PLEASE PRINT CLEARLY

Address _____

City _____

Prov., Postal Code _____

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A GIANT STEP FOR VANKIND

More than magic, the all new GMC Safari is a design and engineering jump on the future.

Most accommodating for people, things, or both, Safari adds a new dimension to the concept of space on wheels. It seats up to eight adults, and lets you position rear seats to face your fancy.

Safari is also a new tool for the trades, offering 4276 litres (151.1

cu/ft) of cargo space, or ample room for bins and shelving.

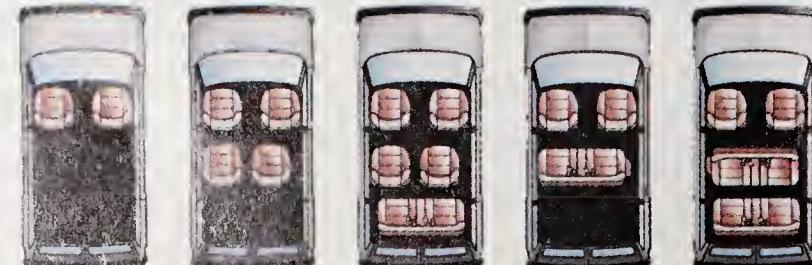
Whatever mind you're of, Safari measures up to your needs. It's comfortably garageable and can pull a 2250 kg (5000 lbs) load with an available 4.3L V6 the competition can't beat. The power of a thrifty 4-cyl engine comes standard. If you're up for a change of pace and space, then test drive the all-new GMC Safari.

COMMITMENT TO

Excellence

Part of General Motors Commitment to Excellence is our quest for complete customer satisfaction. So when you take retail delivery of your new GMC Safari, in addition to a thorough vehicle inspection by your dealership's technician and salesperson, you will receive a full tank of fuel and a follow-up questionnaire to ensure your satisfaction.

Safari has all the inside moves.



Available bench seats may be installed facing either forward, rearward, or facing each other.

M85-G1

GMC Canada

SAFARI
IT'S MORE THAN MAGIC.